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# **SKINNER LANDFILL INTERIM REMEDIAL MEASURES WORK PLAN**

**Prepared for:**

**Skinner Landfill Technical Committee**

**February 28, 1993**

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# **SKINNER LANDFILL INTERIM REMEDIAL MEASURES WORK PLAN**

**Prepared for:**

**Skinner Landfill Technical Committee**

**February 23, 1993**

## **DUNN CORPORATION**

Engineers, Geologists, Environmental Scientists

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### **SKINNER LANDFILL INTERIM REMEDIAL MEASURES WORK PLAN**

**Prepared for:**

**SKINNER LANDFILL TECHNICAL COMMITTEE**

**Prepared by:**

**DUNN CORPORATION  
12 Metro Park Road  
Albany, New York 12205**

**Date:**

**February 25, 1993**

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## **1.0 INTRODUCTION**

### **1.1 Site Description**

The Skinner Landfill Site is located approximately 15 miles north of Cincinnati, Ohio in Section 22 of Butler County. The site lies one-half mile south of the intersection of I-75 and Cincinnati-Dayton Road and one-half mile north of the town of West Chester. The Skinner property including the site is comprised of roughly 78 acres of hilly terrain and is bordered on the north by woods and old fields, on the south by the East Fork of Mill Creek, on the east by railroad tracks, and on the west by the Cincinnati-Dayton Road. Agricultural and wooded land lie south of the site, across the East Fork of Mill Creek site. The nearest residential area located within the vicinity of the landfill lies to the west, along the Cincinnati-Dayton Road, and along the access road to the site. The Union Elementary School is also located on the Cincinnati-Dayton Road, across from the access road.

The site was originally used as a sand and gravel operation. The site began landfill operations in 1934 and accepted wastes through 1990. The actual landfill area covers about 10 acres. In 1982 the landfill was placed on the National Priorities List, (NPL) and subsequently initial remedial investigations began in September 1984. The U.S. Environmental Protection Agency (EPA) and its contractors have completed a Remedial Investigation (RI), Baseline Risk Assessment (RA), and Feasibility Study (FS) of the Skinner Landfill Site.

Results of the RI indicate that migration of contaminants has been limited due to the hydrogeology of the site and the fact that the contaminants are largely immobile, bind tightly to the clay-like soils and have low solubilities in water.

The Phase II RI report indicates that the former west lagoon contained sludge industrial pesticides, chlordane intermediates, some volatile organic compounds, and heavy metals. This waste lagoon is now buried under up to 40 feet of construction demolition debris. This area, referenced as the buried waste lagoon, is located near the southeastern edge of the site. Scattered contamination was found in on-site soils and groundwater. Detected contaminants included volatile organic compounds, semi-volatile compounds, pesticides, PCB's and metals. No contamination was found in the two creeks adjacent to the property, and very low levels of contaminants were found in the Trilobite and Diving ponds.

The only potential off-site routes of migration for surface water and surface water sediments are through the East Fork of Mill Creek and Skinner Creek. Leachate seeps have been noted to discharge into the East Fork of Mill Creek.

Ambient air contamination has been determined not to be a concern on the Skinner site. Sampling during the RA has indicated that concentrations of volatile chemicals in surface soils and water do not represent a significant source of concern for air. Additionally, the depth of contaminated soils in the waste lagoon limits emissions of chemicals to air.

## **1.2 CERCLA 106 Order**

The United States Environmental Protection Agency (USEPA) issued an administrative order pursuant to its authority under Section 106 of the Comprehensive Environmental Response Compensation and Liabilities Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986, which directs respondents to implement the Interim Remedial Measures program of the approved remedy. The approved interim remedy selected for the facility is described in the Record of Decision (ROD) signed by USEPA on September 30, 1992.

The CERCLA 106 Order provides for the implementation of the following interim remedial measures activities:

- site fencing
- alternative water supply
- groundwater monitoring
- installation of groundwater monitoring wells

Additionally the CERCLA 106 Order provides for the development and submittal of a detailed Work Plan within 20 days of the effective date of the order, detailing the methods and procedures for implementing each IRM activity. The CERCLA 106 order is included as Appendix A.

Sections 2-4 of this Work Plan document provide the specific detail required under the CERCLA 106 Order.

### **1.3 Interim Remedial Measures (IRM) Program**

The USEPA Record of Decision, which is provided as attachment 2 of the CERCLA 106 Order, provides that respondents implement the specified IRM activities within the time frames specified under the Order.

Sections 2-5 of this Work Plan provide the specific information required under Paragraph 6 of the CERCLA 106 Order. Additionally, bid documents are being prepared in order to solicit separate contractor bids for each IRM activity. Section 6 of this Work Plan details the schedule for implementation of the IRM program.

### **1.4 Health and Safety Plan**

The Occupational Safety and Health Administration (OSHA) has established standards for Hazardous Waste Operations and Emergency Response. These standards are published in 29 CFR Part 1910. Although some of the operations covered by this IRM plan do not fall within the specific scope of activities regulated by OSHA Part 1910, DUNN has prepared a health and safety plan for its employees working on the project, and will require contractors and any visitors on site during the IRM activities to follow the provisions of this part of OSHA.

The Health and Safety Plan developed for work conducted under the IRM is presented herein as Appendix B.

## **2.0 SITE FENCING**

### **2.1 General**

The Record of Decision specifies the installation of approximately 5000 linear feet of security fencing, as shown on Figure 1. Site fencing is necessary to eliminate exposure potential and risks associated with people entering the site and coming into contact with hazardous substances. Security fencing will also serve to control access. DUNN will prepare bid documents and bid the site fence installation to several local contractors as discussed below.

### **2.2 Fence Installation**

The site fencing will consist of a six foot high chain link fence fabric with two strands of barbed wire around the perimeter of the site. The fence will be equipped with gates at the appropriate locations to allow passage of emergency vehicles and construction equipment on site roadways as may be necessary. The gates will be wide enough to allow for the passage of construction equipment and keys will be distributed to personnel as required by the CERCLA 106 Order.

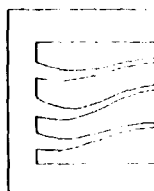
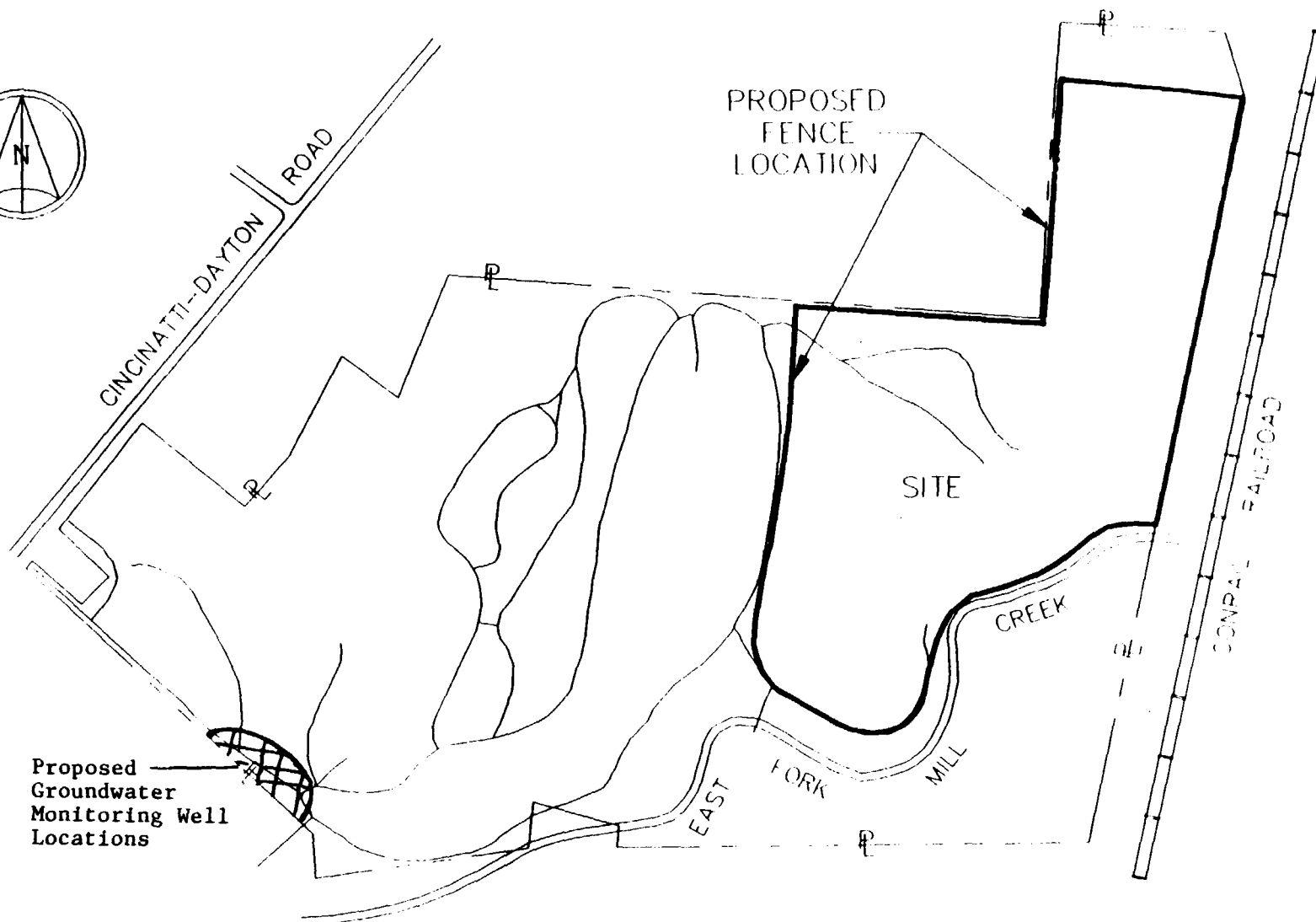
A sign will be installed on the fence at each gate location and at every 200 linear feet of fence. As required by the CERCLA 106 Order, the sign will read, in part, "Danger, Keep Out, United States Environmental Protection Agency Superfund Site".

The fencing on the northwest portion of the site will, for the most part, follow the property line. Fencing in other areas will be installed generally at locations shown on Figure 1.

Prior to fence installation the fence route will be surveyed and flagged. The fence installation contract and bidding documents will require bidders for the fence contract to attend a pre bid meeting at the site in order to walk the proposed fence installation route. This will assure that site conditions are properly considered and evaluated in each bid.

### **2.3 Maintenance**

The fence will be inspected and maintained in accordance with the requirements of the CERCLA 106 Order. Inspections will be conducted twice monthly in conjunction with other site inspection activities. If repairs are necessary arrangements will be made with a qualified



DUNN CORPORATION  
1333 BUTTERFIELD RD., SUITE 540  
DOWNERS GROVE, IL. 60515-5610

PROPOSED FENCE LOCATION  
SKINNER LANDFILL  
WEST CHESTER, OHIO

PROJECT NO 80197-00439

DATE 29DEC92

DWG. NO. 2A9268

SCALE 1" = 400'

FIGURE NO. 1

contractor in a timely fashion. As stipulated under the CERCLA 106 Order the owner of the site, Elsa Skinner Morgan, will be responsible for keeping the gate locked.

## **2.4 Installation Schedule**

The following activities and schedules are anticipated for implementation of the fence installation contract, in accordance with the schedule shown in Table 1.

- Submit Work Plan
  - Site Survey, Flag Fence Route\*
  - Prepare Bid Documents\*
  - Pre Bid Site Meeting\*
  - USEPA Approval of Work Plan
  - Receipt of Bids
  - Award of Contract
  - Complete Fence Installation
- \* These tasks will be performed concurrent with the development of the work plan and the review of the work plan by USEPA. The schedule mandated by the CERCLA 106 Order is too restrictive to allow these tasks to be completed after the approval of the work plan.

Contract award will not be made until USEPA provides formal approval of the Work Plan. As the schedule shown in Table 1 indicates, the completion of the fence installation is not expected to require more than 90 days from the date of Work Plan approval. In the event that weather conditions cause a temporary suspension of the installation work, a modification to the schedule may be required and will be requested.

### **3.0 ALTERNATIVE WATER SUPPLY**

#### **3.1 General**

The Record of Decision and the CERCLA 106 Order require that users of groundwater in an area delineated downgradient of the site be offered an alternative water supply to be provided by connecting the user to the existing public water supply. We will also offer to properly abandon the existing groundwater well in accordance with Ohio Administrative Code Rule 3745-9 Subsection 10.

We understand that USEPA will provide a list of the applicable addresses to the Respondents prior to providing Work Plan approval.

#### **3.2 Installation**

In order to offer the alternative of public water to each of the addresses, DUNN will contact each homeowner on behalf of the Respondents requesting permission for access to perform the work. Bid documents will be prepared setting forth the details for installing water service from the public water system to the individual homes. The actual connection to the public water main requires the approval by the Butler County Water and Sewer Department and the payment of a connection fee to cover the cost of a "local fee", a "capacity fee", installation of a water meter and the service tap.

The Butler County Water and Sewer Department requirements for new water service are presented in Appendix C.

In addition, the contractor retained to install the water service will provide all pipe and appurtenant fixtures to connect the water service to the individual household plumbing system. The contractor will also remove the existing groundwater supply well from service, and properly abandon the existing groundwater well.

In the event that a homeowner denies access for performance of this work or otherwise refuses to participate in this program for alternative water supply, USEPA will be promptly notified as



provided in the CERCLA 106 Order. The schedule for completion will then be amended as appropriate based on the ability of USEPA to gain access for performance of the work.

### **3.3 Maintenance**

The maintenance of the individual household service connections and the payment of any annual user fees or taxes will be the responsibility of the individual homeowners.

### **3.4 Installation Schedule**

The following activities and schedule are anticipated to implement the offer of alternative water supply to the identified addresses, in accordance with the schedule as shown in Table 1.

- Submit Work Plan
- Preparation of Bid Documents<sup>1</sup>
- Notice Letter to Homeowner and Access Agreements
- Pre Bid Meeting
- Receipt of Bids
- EPA Approval of Work Plan
- Award of Contract
- Complete Installation of Water Service

<sup>1</sup> This task will be performed concurrent with the review of the work plan by USEPA. The schedule of the CERCLA 106 order is too restrictive to allow these tasks to be completed after the approval of the work plan.

The award of the contract will not occur until USEPA formally approves the Work Plan. As the schedule shown in Table 1 indicates, the completion of the installation of the alternative water supply is not expected to require more than 90 days from the date of Work Plan approval. In the event that delays are incurred due to failure of a homeowner to grant access, failure of the Butler County Sewer and Water Authority to grant approvals for connection, or weather conditions necessitating temporary suspension of work, an extension to the schedule may be appropriate and will be requested.

## **4.0 GROUNDWATER MONITORING**

### **4.1 General**

Groundwater monitoring will be performed quarterly at the downgradient site boundary. It is recognized that downgradient groundwater users are in the process of being provided an alternative public water supply. The purpose of the groundwater monitoring is to begin to establish a baseline of groundwater quality for the constituents of interest, as well as provide an advance warning of contaminant migration. The existing wells will be augmented by two additional wells to be installed at the downgradient property boundary as required by the USEPA. The location of these wells is shown on Figure 1.

### **4.2 Monitoring and Maintenance**

The data generated to date indicate very limited groundwater impact by volatile organics in the overburden aquifer. There has been no impact demonstrated in the bedrock aquifer. Some elevated levels of a small number of metals have occurred, typically inconsistently, in several wells. A series of existing monitoring wells have been selected to provide an acceptable distribution of monitoring coverage, at the downgradient site boundary, in both the overburden and bedrock aquifers. These wells include GW06, GW07, GW-9, GW-10, GW-28, and GW-38. The wells monitoring the overburden include GW06, GW07 and GW-10. The wells monitoring the bedrock are GW-9, GW-28, and GW-38. The new wells installed near the downgradient property boundary will also be monitored.

The wells will be sampled for the full TCL and TAL lists of parameters using CLP Methods.

A Quality Assurance Project Plan ("QAPP") will be submitted to USEPA and OEPA for review and comments. This plan will be submitted within 30 days of the USEPA approval to the work plan. The QAPP will require the use of quality assurance, quality control, and chain-of-custody procedures in accordance with USEPA's "Interior Guidelines and Specifications for Preparing Quality Assurance Project Plans (QAM-005/80) and subsequent amendments. The field sampling procedure will be initiated within 30 days of receiving USEPA approval of the QAPP.

### **4.3 Schedule**

The following activities are anticipated for implementation of downgradient groundwater monitoring, in accordance with the schedule shown in Table 1.

- USEPA approval of Work Plan
- Submit QAPP
- USEPA approval of QAPP
- Sample Groundwater
- Laboratory Analysis

Groundwater sampling and analysis work will not proceed until USEPA formally approves the QAPP. The CERCLA 106 Order states that sampling must be completed within 60 days of work plan approval. The CERCLA 106 Order also requests that a QAPP be prepared and submitted to USEPA and OEPA within 30 days of work plan approval, and approval obtained prior to initiation of sampling. We have estimated time for agency review and approval, based on discussion with USEPA, to be about 90 days, which is shown on Table 1. Groundwater sampling will be initiated within 30 days of obtaining QAPP approval. This schedule conflicts with the CERCLA 106 Order requirement for completion of sampling within 60 days of work plan approval. Therefore the appropriate time schedule to be in compliance with the CERCLA 106 Order is initiation of groundwater sampling within 30 days of receipt of USEPA QAPP approval.

## **5.0 GROUNDWATER MONITORING WELL INSTALLATION**

### **5.1 General**

The existing groundwater monitoring network will be augmented by the installation of two additional wells, located as shown on Figure 2, as required by the USEPA.

### **5.2 Well Installation**

A groundwater monitoring well pair will be installed at the location shown on Figure 1. This well pair will consist of a shallow groundwater monitoring well to monitor the overburden materials, and a deeper monitoring well to monitor the shallow bedrock.

The deeper well will be installed first, by advancing 4 1/4-inch inner diameter hollow-stem augers (HSA) until the augers reach the top of bedrock. Soil samples will be collected using split-spoon sampling techniques at a standard five-foot interval, according to American Society for Testing Materials (ASTM) Method D-1586. The soil sample obtained will be field screened for VOCs using an organic Vapor Analyzer (OVA) or a photoionization detector, HNU. The soil samples will be described in the field by the on-site geologist and a detailed field log maintained. Particular attention will be paid to the monitoring condition of the samples and the water level in the borehole during advancement of the casing.

The HSA will be advanced to refusal on bedrock. The borehole will be enlarged using 6 1/4-inch HSAs to the top of bedrock. A 4-inch diameter steel casing equipped with a drive shoe will be driven until refusal and seated into bedrock. The casing will be grouted in place using a cement bentonite grout.

Drilling in the bedrock will continue after the grout has set, using rotary wash techniques, and municipal water as a wash fluid. The hole will be drilled about 20 feet into bedrock and a 5-foot section of .010-inch well screen with a cap at the bottom installed, with riser pipe extending to the surface. The well screen and riser pipe will be PVC with threaded connections. A sand pack of medium-grained silica sand will be used as a packing material around the screened interval and extend two to four feet above the screen. A two to four feet thick bentonite seal, using pellets, will be placed on top of the sand pack.

A cement bentonite grout slurry will be tremied from the bentonite seal to approximately one foot below the ground surface to seal the annulus space between the well and the borehole.

A locking steel protective casing will be cemented into a concrete apron at the surface. The concrete apron will slope away from the protective casing.

The shallow overburden well will be installed after the bedrock well. This well will not be sampled and will consist of a 10-foot screened interval placed to intersect the top of the groundwater table, using the same materials used for the bedrock monitoring well.

Drilling and well installation will be observed by DUNN personnel. All drilling equipment coming in contact with subsurface soils will be steam cleaned between holes and at the conclusion of drilling. The split-spoon samples will be washed with a soap and water solution then rinsed with municipal water between each sample.

### **5.3 Well Development**

Each newly installed monitoring well will be developed to remove fine-grained materials from the sand pack and formation, reduce the turbidity of the groundwater samples, and increase the yield of the well. Well development will be performed using either a bailer, pump, or air-lift device, as appropriate. Well development will continue until the water is relatively sediment free to ensure representative samples.

All equipment will be decontaminated, assembled and installed in the well, with care taken not to introduce any contaminants on the equipment during installation. Groundwater generated during the drilling, development and sampling will be discharged directly onto the ground surface at a point downgradient of each well and allowed to infiltrate.

Well development will be discontinued when the turbidity of the discharged groundwater reaches a turbidity value of 50 NTU or less. If this level cannot be achieved, well development will be discontinued when the turbidity level stabilizes indicating additional development would be ineffective or when an amount of groundwater equivalent to ten well volumes is removed, whichever is less.

### **5.4 Schedule**

The two additional monitoring wells will be installed during the 90-day period as required by the CERCLA 106 Order. It is anticipated that these wells will be installed in April to early May to take advantage of improved weather conditions. However, the actual schedule may vary depending on other site work, such as the fence installation. It may be advantageous to install these wells while other site work is ongoing to take advantage of the presence of on-site personnel.

## 6.0 SCHEDULE

Table 1 provides a project schedule in a Gantt chart form delineating each individual IRM activity.

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2/25/93



**Note:** Schedule is contingent upon USEPA Work Plan approval, assumed to be provided February 17, 1993. Groundwater monitoring wells will be installed during April to early May, 1993.



## **APPENDICES**

**Appendix A**

**CERCLA 106 Order**



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF

DEC 09 1992

H-7J

**CERTIFIED MAIL**  
**RETURN RECEIPT REQUESTED**

Charles R. Dyas, Jr.  
1900 Chemed Center  
255 E. Fifth St.  
Cincinnati, OH 45202

Re: Skinner Landfill Site, West Chester, Ohio

Dear Sir or Madam:

Enclosed please find a unilateral Administrative Order issued by the U.S. Environmental Protection Agency ("U.S. EPA") under Section 106 of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986 ("CERCLA"), 42 U.S.C. Section 9601, et seq. Please note that the effective date of this Administrative Order is fourteen (14) calendar days after the date shown on page 25 of the Order.

The U.S. EPA has documented the release or threat of release of hazardous substances, pollutants and contaminants into the environment at the Skinner Landfill Site. Public Monies have been spent by the U.S. EPA to conduct a Remedial Investigation/Feasibility Study ("RI/FS"). These activities were authorized by Section 104 of CERCLA, 42 U.S.C. § 9604.

Section 122(a) of CERCLA requires U.S. EPA to notify potentially responsible parties ("PRPs") in situations when invoking the settlement procedures set forth in Section 122(e) of CERCLA is not appropriate. The U.S. EPA has decided not to invoke the settlement procedures of Section 122(e) of CERCLA because, based on the nature of the interim remedial action to be implemented at the site and the need to implement such remedial action expeditiously for the protection of human health, Section 122(e) procedures would not be practicable or in the public interest. Pursuant to Section 122(a) of CERCLA, the U.S. EPA's decision not to invoke the settlement procedures of Section 122(e) of CERCLA is not subject to judicial review.

If you have any questions regarding the Order, feel free to contact John Breslin, Assistant Regional Counsel, at (312) 886-7165 or Jim Van Der Kloot, Remedial Project Manager, at (312) 353-9309.

Sincerely yours,

  
for William E. Muno, Director  
Waste Management Division

Enclosure

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION V

IN THE MATTER OF:

SKINNER LANDFILL SUPERFUND SITE  
BUTLER COUNTY, OHIO

RESPONDENTS:

Listed in Attachment 1

)  
) ADMINISTRATIVE ORDER  
) PURSUANT TO SECTION 106  
) OF THE COMPREHENSIVE  
) ENVIRONMENTAL RESPONSE,  
) COMPENSATION, AND  
) LIABILITY ACT OF 1980,  
) AS AMENDED

I.

PREAMBLE

The following Administrative Order ("Order") is issued to the Respondents pursuant to the authority vested in the President of the United States by Section 106(a) of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. § 9606(a), as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499 ("CERCLA"), and delegated to the U.S. Environmental Protection Agency ("U.S. EPA") by Executive Order No. 12580, January 23, 1987, 52 Federal Register 2923, and further delegated to the Regional Administrator by U.S. EPA Delegation No. 14-14-B, issued February 26, 1987, and further delegated to the Director of the Waste Management Division, Region V, by Delegation No. 14-14-B, issued September 14, 1987. Pursuant to Section 106(a) of CERCLA, notice of issuance of this Order has been given to the State of Ohio.

This Order requires the Respondents to undertake remedial action activities at and near the Skinner Landfill Superfund Site in Butler County, Ohio (the "Site" or "Facility"), as described below, to abate an imminent and substantial endangerment to the public health or welfare or the environment that may exist because of the release or threat of a release of hazardous substances present at the Site.

## II.

### PARTIES BOUND

This Order applies to and is binding upon the Respondents, their successors and assigns. The Respondents shall provide a copy of this Order to any engineer or contractor hired to perform the work required by this Order. The Respondents shall also require that any contractor provide a copy of this Order to each subcontractor retained to perform any part of the work required by this Order.

## III.

### DEFINITIONS

Whenever the following terms are used in this Order or the Attachments attached hereto, the definitions specified in this Section shall apply.

A. "CERCLA" means the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended by the Superfund Amendments and Reauthorization Act of 1986, Pub. L. 99-499, 42 U.S.C. § 9601 et seq.

B. "Facility" means the "facility" as that term is defined at Section 101(9) of CERCLA, 42 U.S.C. § 9601(9), where hazardous

substances have come to be located; the Facility is located in West Chester, Butler County, Ohio and is known as the Skinner Landfill Superfund Site.

C. "Hazardous substance" shall have the meaning provided in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

D. "OEPA" means the Ohio Environmental Protection Agency.

E. "National Contingency Plan" shall have the meaning set forth in Section 105 of CERCLA, 42 U.S.C. § 9605.

F. "Interim Action Operable Unit," as this term applies to the interim remedial action required by this Order and its Attachments, is an interim action remedy requiring the construction of a fence around the contaminated portions of the Site, the connection of an alternative water supply for potentially affected users of groundwater, and the performance of on-site groundwater monitoring.

G. "Record of Decision" or "ROD" means the U.S. EPA-approved remedy selected for implementation at the Facility and signed by the Regional Administrator of the U.S. EPA, Region V, on September 30, 1992, and attached as Attachment 2.

H. "Respondents" refers to the parties delineated in Attachment 1.

I. "Response Costs" means any costs incurred by the U.S. EPA in conducting response actions related to this Order and not inconsistent with the NCP.

J. "Administrative Record" means the Administrative Record, which includes all documents considered or relied upon by

U.S. EPA in the selection of the remedial action embodied in this Order and Attachments. The Administrative Record Index is a listing of all documents included in the Administrative Record, as set forth in Attachment 3.

K. "State" means the State of Ohio.

L. "United States" means the United States of America.

M. "Work" means the activities to be undertaken by Respondents in accordance with this Order and Attachments.

#### IV.

##### FINDINGS OF FACT AND DETERMINATIONS

A. The Skinner Landfill Site is a Facility within the meaning of Section 101(9) of CERCLA, 42 U.S.C. § 9601(9). The Site is located in West Chester, Ohio, in Section 22 of Butler County (see Attachment 4).

B. The Site was used in the past for the mining of sand and gravel, and was operated for the landfilling of a wide variety of materials from approximately 1934 through 1990. Materials disposed of on the Site include construction and demolition debris, household refuse, and a wide variety of chemical wastes. A low area in the center of the Site, referred to as the waste lagoon, was used for the disposal of paint wastes, ink wastes, creosote, pesticides, and other chemical wastes.

C. Several geologic units which underlie the Site are used locally for the supply of drinking water.

D. In 1976, in response to a fire on the Site and reports of observations of a black, oily liquid in a waste lagoon on the



Site, the OEPA began an investigation of the Site. After the initial investigation, the Skinners covered the waste lagoon with a layer of demolition debris, thereby hindering further investigation. Albert Skinner, the Site owner at the time, dissuaded the OEPA from accessing the waste lagoon area by claiming that nerve gas, mustard gas, incendiary bombs, phosphorus, flame throwers, cyanide ash, and other explosive devices were buried at the landfill. This prompted the OEPA to request the assistance of the U.S. Army. In the presence of OEPA attorneys and the U.S. Army investigators, Albert Skinner subsequently retracted his claims that ordnance and other explosive devices were present on the Site. The U.S. Army and OEPA then dug several trenches into the buried waste lagoon, finding a black substance and barrels of wastes. Records searches performed by the U.S. Army have revealed no records indicating the shipment of ordnance or explosives from the U.S. Army to the Site.

E. In 1982, the U.S. EPA conducted a limited investigation for the purpose of scoring the Site for inclusion on the National Priorities List ("NPL"). This investigation showed that the groundwater southeast of the buried waste lagoon was contaminated with volatile organic compounds. The Site was placed on the NPL in December 1982.

F. In 1985, the U.S. EPA began a Phase I Remedial Investigation, which included the sampling of ground water, surface water, and soils. U.S. EPA also conducted a biological

survey of the East Fork of Mill Creek and Skinner Creek.

G. In 1989, the U.S. EPA began a Phase II Remedial Investigation ("Phase II RI") to further investigate the Site groundwater, surface water, soils, and sediments. Overall, 33 soil borings and 39 groundwater monitoring wells were installed, and over 400 samples from the Site were analyzed in chemical laboratories.

H. In August 1990, the OEPA closed the Site to all further landfilling activities.

I. Hazardous substances were detected in the groundwater in two wells, GW-20 and B-05, located immediately adjacent to and downgradient from the waste lagoon, were the most severely impacted of wells tested during the Phase II RI. Hazardous substances detected in these wells include 1,1-dichloroethane, 1,2-dichloroethane, 1,2-dichloroethene, 1,2-dichloropropane, chloroethane, ethylbenzene, chloroform, trichloroethene 1,3-dichlorobenzene, 1,4-dichlorobenzene, naphthalene, and vinyl chloride.

J. The flow of groundwater within the unconsolidated deposits (those deposits lying above the bedrock) on the Site appears to be generally controlled by the surface topography, which in turn mirrors the bedrock topography. The groundwater surface maps indicate that the groundwater flows downgradient, along the same direction as the slope of the ground surface.

K. Data developed during analyses of groundwater performed during the two phases of the RI revealed the presence of numerous

hazardous substances as defined in Section 101(14) of CERCLA, including trichloroethene, toluene, benzene, acetone, and methylene chloride. Some compounds detected in groundwater and the associated maximum concentrations found at the Site are listed below. The concentrations for trichloroethene, benzene, and toluene exceed Maximum Contaminant Levels ("MCLs") established pursuant to the Safe Drinking Water Act, 42 U.S.C. §300f et al. The MCL for trichloroethene is 5 ug/L; for benzene the MCL is 5 ug/L; and for toluene the MCL is 1,000 ug/L.

GROUNDWATER ANALYTICAL DATA  
(ug/l)

<u>Chemical</u>	<u>Maximum</u>
Trichloroethene	31
Toluene	3100
Benzene	20,000

L. The area to be fenced encompasses the landfill and the buried waste lagoon, which the Remedial Investigation identified as the primary areas of contamination.

M. In April 1992, U.S. EPA made the Proposed Plan for the remedial action to be conducted at the Site available for public comment. A public meeting was held in West Chester, Ohio, on May 20, 1992. Based on comments received at this and a second meeting held on July 29, 1992, U.S. EPA proposed implementing the Interim Action Operable Unit and extended the comment period for such Operable Unit until August 31, 1992. The Record of Decision for this Interim Action Operable Unit was signed by the Regional

Administrator for Region V of U.S. EPA on September 30, 1992.

N. The ROD is attached as Attachment 2. The selected remedy provides for connection of an alternative water supply for potentially affected residences currently using groundwater, for construction of a fence around the contaminated portions of the Site, and for monitoring of on-Site groundwater.

O. U.S. EPA's ROD includes a discussion of U.S. EPA's reasons for the selection of the Interim Action Operable Unit remedy. The remedial action has been determined to be a cost-effective remedial action that provides adequate protection of public health, welfare, and the environment, and meets or waives all Federal and more stringent State applicable or relevant and appropriate requirements ("ARARs"), within the meaning of Section 121 of CERCLA, 42 U.S.C. § 9621, and the NCP.

P. At various times between 1934 and 1990, "hazardous substances" as defined in Section 101(14), of CERCLA, 42 U.S.C. § 9601(14), were deposited, stored, disposed of, placed, or located at the Site.

Q. The past, present, and/or future migration of hazardous substances from the Site constitutes an actual and/or threatened "release" into the environment as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22), and may present an imminent and substantial endangerment to the public health or welfare or the environment.

R. Elsa Skinner Morgan is the "owner" of the Facility as defined in Section 101(20) of CERCLA, 42 U.S.C. § 9601(20).

S. Apart from the Respondent described in Paragraph R, the Respondents delineated in Attachment 1 to this Order generated hazardous substances and "arranged for" the disposal or treatment, or arranged with a transporter for transport for disposal or treatment, of hazardous substances owned or possessed by the Respondents within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3). Respondents are "persons" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21). Each Respondent is a liable person with respect to the Facility within the meaning of Section 107 of CERCLA, 42 U.S.C. § 9607. The responses to information requests and other documents supporting the Respondents' liability for performance of the actions required by this Order are contained in the Liability Record File for the Order, which supports the issuance of the Order under Section 106 of CERCLA. The Index for the Liability Record File is attached as Attachment 5.

T. The actions required by this Order are necessary to protect the public health or welfare or the environment, and are consistent with the National Contingency Plan, 40 CFR Part 300 et seq., as amended.

V.

#### ORDER

Based upon the foregoing Findings of Fact and Determinations, and pursuant to Section 106(a) of CERCLA, it is hereby ordered that Respondents perform the work described below.

Work to be Performed

1. Within twenty (20) calendar days after the effective date of this Order, the Respondents shall submit to U.S. EPA a Work Plan for carrying out the activities ordered in Paragraph 6 below. The Work Plan shall provide a concise description of the activities to be conducted to comply with the requirements of this Order. The Work Plan shall include a representation that the Respondents can properly conduct the actions required by this Order. The Work Plan shall be reviewed by U.S. EPA, which may approve, disapprove, require revisions, or modify and approve the Work Plan. In the event that U.S. EPA provides Respondents with a written disapproval of or request for revisions to the Work Plan, Respondents shall submit a revised Work Plan incorporating all of U.S. EPA's noted requirements or revisions within ten (10) calendar days of receipt of U.S. EPA's disapproval or request for revisions. Respondents shall implement the Work Plan as approved by U.S. EPA. Once approved, the Work Plan shall be deemed to be incorporated into and made a fully enforceable part of this Order.

2. The Work Plan shall contain a Site Safety and Health Plan, which shall be prepared in accordance with the Occupational Safety and Health Administration ("OSHA") regulations applicable to Hazardous Waste Operations and Emergency Response, 29 CFR Part 1910.

3. Respondents shall retain a contractor qualified to undertake and complete the requirements of this Order, and shall

notify U.S. EPA of the name of such contractor within fifteen (15) calendar days of the effective date of this Order. U.S. EPA retains the right to disapprove of any, or all, of the contractors and/or subcontractors retained by the Respondents. In the event U.S. EPA disapproves of a selected contractor or subcontractor, Respondents shall retain a different contractor or subcontractor, subject to approval by U.S. EPA.

4. Within fifteen (15) calendar days of U.S. EPA approval of the Work Plan, Respondents shall commence the work described in the Work Plan. Unless otherwise directed by U. S. EPA, and as mandated by Section 122(e)(6) of CERCLA, the Respondents shall not commence field activities until they receive written approval of the Work Plan by U.S. EPA.

5. Failure of the Respondents to properly implement all aspects of the Work Plan shall be deemed to be a violation of the terms of this Order.

6. The Work Plan shall require the Respondents to perform, and to complete within sixty (60) calendar days of Work Plan approval, at a minimum, the following activities:

a) The Respondents shall erect a six-foot high chain link fence with at least two strands of barbed wire around the area indicated in Attachment 6. A gate shall be installed at each point where the fence intersects an on-Site road, and shall be wide enough to permit access to emergency vehicles and construction equipment. Keys to the gates shall be provided to the local police and fire departments,

to U.S. EPA and OEPA, and to any other agencies or individuals identified by U.S. EPA. Signs shall be installed on the fence, indicating the presence of a Superfund chemical waste Site. The signs shall state: "Danger, Keep Out, United State Environmental Protection Agency Superfund Site." The Respondents, or one or more of their representatives, shall inspect the fence at least twice a month, and repair it if necessary. Respondent Elsa Skinner Morgan, the owner of the Site, shall keep the fence locked to the maximum extent practicable.

b) All users of groundwater in the area delineated in Attachment 4 shall be offered an alternative supply of water. The alternative water supply shall be provided by connecting the user's home or business to the existing public water supply. Respondents shall perform this work in accordance with local codes, and shall pay any required hook-up fees. Respondents will not be responsible for the payment of any future water bills for these users.

c) Groundwater at the downgradient Site boundary shall be monitored for organic and inorganic contaminants on a quarterly basis, for as long as this requirement is not superseded by a subsequent Order or Decree. U.S. EPA may determine that this requires the installation of several groundwater monitoring wells.

7. On or before the effective date of this Order, the Respondents shall designate a Project Coordinator. To the



greatest extent possible, the Project Coordinator shall be present on Site or readily available during the course of work on-Site. The U.S. EPA has designated Jim Van der Kloot of the Remedial and Enforcement Response Branch, Ohio/Minnesota Section II, as its Remedial Project Manager. The Remedial Project Manager and the Project Coordinator shall be responsible for overseeing the implementation of this Order. To the maximum extent possible, communication between the Respondents and the U.S. EPA, and all documents, reports and approvals, and all other correspondence concerning the activities relevant to this Order, shall be directed through the Remedial Project Manager and the Project Coordinator, and to OEPA.

8. The U.S. EPA and the Respondents shall each have the right to change their respective designated Remedial Project Manager or Project Coordinator. U.S. EPA shall notify the Respondents, and Respondents shall notify U.S. EPA, as early as possible before such a change is made, but in no case less than 24 hours before such a change. Notification may initially be verbal, but shall be followed by prompt written notice.

9. The U.S. EPA Remedial Project Manager shall have the authority vested in a Remedial Project Manager by the National Contingency Plan, 40 CFR Part 300, as amended, including the authority to halt, conduct, or direct any work required by this Order, or to direct any other response action undertaken by U.S. EPA or the Respondents at the facility.

10. No extensions to the above time frames shall be granted

without sufficient cause. All extensions must be requested, in writing, and shall not be deemed accepted unless approved by U.S. EPA.

11. This Order and all written instructions by the U.S. EPA Remedial Project Manager or his designated alternate that are consistent with the NCP and this Order shall be binding upon the Respondents.

12. Nothing contained herein shall be construed to prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order, or from taking other legal or equitable action as it deems appropriate and necessary, or from requiring the Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

13. This Order shall be effective three (3) calendar days following the date of issuance unless a conference is requested as provided herein. If a conference is requested, this Order shall be effective two (2) calendar days following the day of the conference, unless stated otherwise by U.S. EPA.

14. Within seven (7) calendar days of the effective date of this Order, Respondents shall provide notice, verbally or in writing, to U.S. EPA stating their intention to comply with the terms of this Order. Verbal notification must be followed in writing within three (3) calendar days of the verbal notification. Notifications under this paragraph may be made by one Respondent on behalf of another, or by a representative of a group of Respondents formed for the purpose of complying with

this Order. In the event any Respondents fail to provide such notice, those Respondents shall be deemed to have not complied with the terms of this Order.

15. After the effective date of this Order, Respondents shall provide a written bi-monthly progress report to the Remedial Project Manager and to OEPA regarding the actions taken pursuant to this Order. At a minimum, these progress reports shall describe the actions that have been taken to comply with this Order, including all results of sampling and tests received or prepared by the Respondents, and shall describe all significant work items, if any, planned for the next month.

16. The Respondents shall submit a final report summarizing the actions taken to comply with this Order. The report shall contain, at a minimum: identification of the facility; description of the actions performed; a listing of the resources committed to perform the work under this Order (including financial, personnel, mechanical and technological resources); identification of all significant items that affected the actions performed under this Order and discussion of how all problems were resolved; and an affidavit from a person who supervised or directed the preparation of the report. The affidavit shall certify under penalty of law that, based on personal knowledge and appropriate inquiries of all other persons involved in preparation of the report, the information submitted is true, accurate and complete to the best of the affiant's knowledge and belief. The report shall be submitted within thirty (30)

calendar days of completion of all the work required pursuant to this Order.

17. If the date for submission of any item or notification required by this Order falls upon a weekend or state or federal holiday, the time period for submission of that item or notification is extended to the next working day following the weekend or holiday.

18. If any provision of this Order is deemed invalid or unenforceable, the balance of this Order shall remain in full force and effect.

#### VI.

#### QUALITY ASSURANCE

If Respondents conduct any sampling and analysis of materials on Site during the course of the work required by this Order, they shall use quality assurance, quality control, and chain of custody procedures in accordance with U.S. EPA's "Interim Guidelines and Specifications For Preparing Quality Assurance Project Plans" (QAM-005/80) and subsequent amendments. Prior to the commencement of any sampling and analysis under this Order, Respondents shall submit a Quality Assurance Project Plan ("QAPP") to U.S. EPA and OEPA that is consistent with the Work Plan and applicable guidelines. U.S. EPA, after review of Respondent's QAPP and OEPA's comments thereon, will notify the Respondents in writing of any required modifications, conditional approval, disapproval, or approval of the QAPP. Upon written notification of disapproval or any need for modifications,

Respondents shall make all required modifications to the QAPP within ten (10) calendar days of receipt of such notification. Failure to make all modifications required by U.S. EPA shall be deemed a violation of this Order.

Respondents shall ensure that U. S. EPA personnel or their authorized representatives are allowed access to any laboratory utilized by the Respondents in implementing the Order. Respondents shall ensure that any such laboratory will analyze samples submitted by U. S. EPA or OEPA for quality assurance monitoring.

#### VII.

##### FACILITY ACCESS, SAMPLING, DOCUMENT AVAILABILITY

A. To the extent that the Facility or other areas where work under this Order is to be performed is under ownership or possession by someone other than the Respondents, Respondents shall obtain all necessary access agreements. In the event that, after using their best efforts, Respondents are unable to obtain such agreements, Respondents shall immediately notify U.S. EPA, and U.S. EPA may then, at its discretion, assist Respondents in gaining access, to the extent of its authority and as provided by appropriate U.S. EPA guidance.

B. Elsa Skinner Morgan and other Respondents (to the extent it is within their control) shall provide access to the Facility to U.S. EPA employees, contractors, agents, and consultants, as well as to representatives of the OEPA, at all reasonable times, and shall permit such persons to be present and move freely about

the area in order to conduct oversight of response activities conducted by Respondents, to conduct inspections, to take photographs and videotapes of the Facility, to do cleanup/stabilization work, to take samples, and to conduct other activities that U.S. EPA determines to be necessary.

C. The Respondents shall make available to U.S. EPA and the OEPA the results of any sampling and/or test or other data generated by the Respondents with respect to the implementation of this Order, and shall submit these results in monthly progress reports as described in Section V of this Order.

#### VIII.

##### RETENTION AND AVAILABILITY OF INFORMATION

A. Except for records and documents protected under the Attorney-Client Privilege or Attorney Work-Product doctrines, the Respondents shall make available to U.S. EPA and the OEPA and shall retain during the pendency of this Order, and for six years after termination of this Order, all records and documents in their possession, custody, or control that relate to the performance of this Order, including, but not limited to, documents reflecting the results of any sampling, tests, or other data or information generated or acquired by the Respondents or on behalf of the Respondents with respect to the Facility. At the conclusion of the six-year period following termination of this Order, the Respondents shall provide written notice to the U.S. EPA RPM, the U.S. EPA's Office of Regional Counsel, and the OEPA, ninety (90) calendar days prior to the destruction of such

documents, and, upon request by U.S. EPA or the OEPA, the Respondents shall relinquish custody of the documents to U.S. EPA or the OEPA.

B. The Respondents may assert business confidentiality claims covering part or all of the information provided in connection with this Order in accordance with Section 104(e)(7)(F) of CERCLA, 42 U.S.C. § 9604(e)(7)(F), and pursuant to 40 CFR 2.203(b) and applicable State law.

C. Information determined to be confidential by U.S. EPA will be afforded the protection specified in 40 CFR Part 2, Subpart B and, if determined to be entitled to confidential treatment under State law by OEPA, afforded protection under State law by the OEPA. If no such claim accompanies the information when it is submitted to the U.S. EPA and the OEPA, the public may be given access to such information without further notice to the Respondents.

D. Information acquired or generated by the Respondents in performance of the Work that is subject to the provisions of Section 104(e)(7)(F) of CERCLA, shall not be claimed as confidential by the Respondents.

#### IX.

#### PENALTIES FOR NONCOMPLIANCE

The Respondents are advised, pursuant to Section 106(b) of CERCLA, 42 U.S.C. § 9606(b), that any person who without sufficient cause willfully violates, or fails to comply with this Order, or any portion thereof, may subject the Respondents to a

civil penalty of no more than \$25,000 per day for each day in which such violation occurs, or such failure to comply continues. Failure to comply with this Order, or any portion thereof, without sufficient cause may also subject the Respondents to liability for punitive damages in an amount at least equal to but not more than three times the amount of any costs incurred by the U.S. EPA as a result of the Respondent's failure to take proper action, pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3).

X.

#### OTHER CLAIMS

U.S. EPA and the OEPA are not to be construed as parties to, and do not assume any liability for, any contract entered into by the Respondents in carrying out activities pursuant to this Order. The proper completion of the Work under this Order is solely the responsibility of the Respondents.

XI.

#### NOTICES

Whenever, under the terms of this Order, notice is required to be given, or a report or other document is required to be forwarded by one party to another, such correspondence shall be directed to the following individuals at the addresses specified below:



a. As to U.S. EPA:

John Breslin  
Office of Regional Counsel  
U.S. EPA, CS-3T  
77 W. Jackson Blvd.  
Chicago, Illinois 60604

Jim Van der Kloot  
Remedial Project Manager  
U.S. EPA, HSRM-6J  
77 W. Jackson Blvd.  
Chicago, Illinois 60604

and

b. As to OEPA:

Katherine Stroup  
Ohio EPA  
1800 WaterMark Drive  
P.O. Box 1049  
Columbus, Ohio 43266-1049

Kathy Fox  
Ohio EPA  
Southwest District Office  
40 S. Main St.  
Dayton, Ohio 45402-2086

XII.

CONSISTENCY WITH NATIONAL CONTINGENCY PLAN

The U.S. EPA has determined that the Work, if properly performed as set forth in Section V hereof, is consistent with the provisions of the NCP pursuant to Section 105 of CERCLA, 42 U.S.C. § 9605.

XIII.

REIMBURSEMENT OF RESPONSE COSTS

Respondents shall reimburse U.S. EPA, upon written demand, for all response costs incurred by the United States in overseeing Respondents' implementation of the requirements of this Order or in performing any response action that Respondents fail to perform in compliance with this Order. U.S. EPA may submit to Respondents on a periodic basis an accounting of all response costs incurred by the United States with respect to this Order. U.S. EPA's Agency Financial Management System summary data (Itemized Cost Summary), or such other summary as certified

by U.S. EPA, shall serve as the basis for payment demands.

Respondents shall, within forty-five (45) days of receipt of each U.S. EPA payment demand, remit a certified or cashier's check for the amount of those costs. Interest shall accrue from the date that payment of a specified amount is demanded in writing. The interest rate is the rate established by the Department of the Treasury pursuant to 31 U.S.C. § 3717 and 4 CFR 102.13.

Checks shall be made payable to the Hazardous Substances Superfund and shall include the name of the Site, the Site identification number, the account number and the title of this Order. Checks shall be forwarded to: U.S. Environmental Protection Agency, Superfund Accounting, P.O. Box 70753, Chicago, Illinois 60673.

Respondents shall send copies of each transmittal letter and check to the U.S. EPA's Remedial Project Manager.

#### XIV.

##### RESERVATION OF RIGHTS

A. Nothing contained herein shall be construed to prevent U.S. EPA from seeking legal or equitable relief to enforce the terms of this Order, or from taking the legal or equitable action it deems appropriate and necessary, or from requiring the Respondents in the future to perform additional activities pursuant to CERCLA, or any other applicable law.

B. Except to the extent such response costs have been reimbursed under this Order, U.S. EPA reserves its right to bring

an action against Respondents pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607, for recovery of response costs incurred by U.S. EPA in connection with the Skinner Landfill Facility.

C. Notwithstanding any other provision of this Order, U.S. EPA reserves the right to complete any response action required herein and seek either reimbursement from Respondents for its costs or other relief, upon a determination by U.S. EPA that Respondents are in violation of this Order or that such action is necessary to protect public health, welfare or the environment.

XV.

MODIFICATION

This Order may be modified in writing by agreement between U.S. EPA and Respondents. This is not intended for the benefit of any third-party and may not be enforced by any third party.

XVI.

CERTIFICATION OF COMPLETION

When the Respondents determine that they have completed the implementation of the interim remedial action pursuant to the approved Work Plan, they shall submit to U.S. EPA and the OEPA a Notification of Completion within seven (7) calendar days of such completion. Upon receipt of such Notification, U.S. EPA and the OEPA shall schedule a final inspection to verify completion. U.S. EPA shall issue a Certification of Completion upon its determination that the Respondents have satisfactorily completed all construction activities required pursuant to the approved

Work Plan. After the U.S. EPA issues the Certification of Completion, Respondents shall continue to monitor the groundwater monitoring wells on a quarterly basis for as long as this requirement is not superseded by a subsequent Order or Decree.

## XVII.

ACCESS TO ADMINISTRATIVE RECORD

The Administrative Record supporting the above Findings of Fact and Determinations is available for review and photocopy on weekdays between the hours of 8:00 a.m. and 5:00 p.m., at the U.S. EPA, Region V, 77 West Jackson Boulevard, Chicago, Illinois 60604-3590. Please contact John Breslin, Assistant Regional Counsel, at 312/886-7165, for review of the Administrative Record at this location. The Administrative Record is also available for review at the Union Township Library, 7900 Cox Road, West Chester, Ohio.

## XVIII.

NOTICE OF LIABILITY

Respondents are hereby notified that U. S. EPA will take any action pursuant to Section 106(a) of CERCLA that may be necessary in the opinion of U.S. EPA for the protection of public health or welfare or the environment, and Respondents may be liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a), for the costs of these government actions.

IT IS SO ORDERED:

BY: *Jodi L. Lutz*

DATE: *December 9, 1992*

*JEL* William E. Muno  
Acting Director, Waste Management Division  
U.S. EPA, Region V

## **Appendix B**

### **IRM Site Health and Safety Plan**

**FIELD HEALTH AND SAFETY PLAN  
INTERIM REMEDIAL MEASURES  
SKINNER LANDFILL SITE**

**Prepared for:  
Skinner Landfill Technical Committee**

**February 25, 1993**

**FIELD HEALTH AND SAFETY PLAN  
INTERIM REMEDIAL MEASURES  
SKINNER LANDFILL SITE**

**Prepared for:**

**Skinner Landfill Technical Committee**

**Prepared by:**

**DUNN CORPORATION  
12 Metro Park Road  
Albany, New York 12205**

**Date:**

**February 25, 1993**



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**DUNN CORPORATION FIELD HEALTH AND SAFETY PLAN**  
**SITE: Skinner Landfill Site**  
**PROJECT NUMBER: 03215-02691**  
**DATE(S) PREPARED: FEBRUARY 25, 1993**

**1.0 INTRODUCTION**

This Field Health and Safety Plan (FHSP) specifies the minimum precautions and protective measures that Dunn Corporation (DUNN) employees and associates (hereinafter "employees"), subcontractors, and visitors to the site during the completion and the specific IRM activities, must take to minimize the risk to their health and safety and the environment while performing the scope of work defined in Section 3.0. Each employee, subcontractor or visitor entering the site must become familiar with this FHSP and abide by its requirements. This FHSP incorporates by reference all applicable requirements of OSHA in 29 CFR Parts 1910 and 1926. The site owner or operator may impose additional requirements.

This FHSP can and will be modified as necessary by Dunn Corporation's Project (or Task) Manager, Project Advisor, Corporate Health and Safety Officer (CHSO), Regional Health and Safety Officer (RHSO), or Site Health and Safety Officer (SHSO) in response to either newly-available information or a request to work in a location or perform a service not previously identified herein.

## **2.0 APPLICABILITY**

This FHSP applies to work performed by employees of Dunn or by any subcontractor retained by and working under the direct supervision of a Dunn employee which has been authorized in writing to rely on this FHSP (hereinafter "subcontractor"). It also applies to any visitors on the site during the performance of the IRM activities. Visitors that do not comply with the Health and Safety Plan will be asked to leave the site immediately. It is not to be construed as applying to, or providing advice or protection to, any person other than an employee of Dunn Corporation, its subcontractor(s), and those visitors that are on site while a representative of DUNN is on site, and who comply with this plan and subsequent instructions.

Any Dunn employee may stop work by a subcontractor who is observed to not be complying with an applicable health or safety requirement.

Other parties at or near the site, if any, are independently responsible for their own health and safety and for complying with all applicable protective requirements including, if necessary, developing and implementing their own FHSP.

### **3.0 SCOPE OF WORK**

Specific tasks covered by this FHSP include, but are not limited to tasks specified in the Skinner Landfill Interim Remedial Measures Work Plan and summarized below:

- Off-site connection of houses to public water main.
- Surveying of fence alignment.
- Installation of a fence around the site perimeter.
- Groundwater sampling.
- Installation of groundwater monitoring wells.
- Decontamination of employees and/or equipment, if necessary.

## **4.0 DESIGNATION OF RESPONSIBILITIES**

### **4.1 Key Positions**

Project Coordinator:	Larry I. Bone, PH.D.
Office Phone:	(517) 636-2856
Project Manager:	William J. Hall
Office Phone:	(518) 458-1313 ext. 212
CHSO:	Joseph R. Brown, CIH
Office Phone:	(518) 458-1313 ext. 286
RHSO:	Robert Rafferty
Office Phone:	(518) 458-1313 ext. 374
SHSO:	On-site DUNN employee or designee in charge.

A phone will be available on site for emergency use during the fence installation and groundwater monitoring activities.

### **4.2 Responsibilities**

Although responsibility for implementing this FHSP is shared by the Project Manager, the CHSO, the RHSO, the SHSO, and the Regional Managing Officer, the primary responsibility for health and safety lies with the individual employee. Each must be familiar with and conform to the safety protocols prescribed in this FHSP, and communicate any relevant experience or observations to provide valuable input to improving overall safety.

The Project Manager recommends policy on all health and safety matters, and must (in conjunction with the Regional Managing Officer) provide the necessary resources to allow the work to be conducted in accordance with this FHSP.

The CHSO and RHSO develop health and safety policies and procedures, implement medical surveillance and training programs, provide guidance to the SHSO, and make the final decisions on all health and safety policies, protocols, and protective measures.

The SHSO is responsible for:

- Conducting an introductory site health and safety meeting with each employee, subcontractor or visitor on the site during the performance of the IRM activities. Also conducting daily briefings and topical briefings, as appropriate, to ensure health and safety issues are properly addressed.

- Assuring that a complete copy of this FHSP is at the site, that all employees have access to and are familiar with it, and that field activities of employees and subcontractors are conducted in a manner consistent with it.
- Assuring that all necessary employee, subcontractor and visitors' records and certifications are available at the site demonstrating compliance with 29 CFR 1910.120.
- Conducting training/rehearsal sessions for employees, as appropriate, before work starts and whenever conditions change (including on site control, emergency alarm/notification, evacuation, and emergency response procedures).
- Ensuring that employees, subcontractors and visitors have, use, and properly maintain specified personal protective, monitoring, decontamination, and other health or safety equipment.
- Maintaining a high level of safety awareness among employees, subcontractors and visitors and communicating pertinent matters to them promptly.
- Informing subcontractors and visitors of potential health or safety hazards that have been identified and of site emergency response procedures.
- Assuring that specified monitoring for dangerous substances and/or conditions is conducted.
- Assuring proper decontamination of employees, subcontractors, visitors and equipment.
- Identifying, assessing the capabilities of, and making advance arrangements (as necessary) with off-site emergency response/assistance organizations.
- Initiating immediate response actions in the event of an emergency or unsafe condition, and coordinating those actions with employees, subcontractors, other contractors, the owner/operator, involved agencies, and medical facilities.
- Notifying the Project Manager and CHSO or RHSO promptly of any emergency or any serious unsafe act or condition or exception to the requirements in this FHSP.
- Recommending improved health and safety measures to the RHSO and CHSO.

The SHSO has the authority to:

- Direct employees or subcontractors to alter work practices that are deemed not sufficiently protective of human health or the environment.
- Suspend field activities of employees or subcontractors, or take other measures to reduce potential exposures if the environment or the health or safety of any person appears to be endangered.
- Suspend an employee or subcontractor from field activities for infraction of the requirements in this FHSP.

However, the presence of the SHSO shall in no way relieve any person or organization of its obligation to comply with all applicable federal, state and local laws and regulations.



## **5.0 SITE-SPECIFIC HEALTH AND SAFETY CONCERNS**

### **5.1 Site History**

This site is a closed landfill which reportedly received industrial, commercial, and household wastes. The site began landfill operations in 1934 and accepted wastes through 1990. The most contaminated media of the site are the soils of the buried waste lagoon, which is located within the landfill near the southeastern edge of the site. Low levels of contamination were found in the site-wide soils, ground water and in the sediments in Mill Creek, Skinner Creek and the Duck and Diving Ponds.

Results of the RI indicate that migration of contaminants has been limited due to the hydrogeology of the site and the fact that the contaminants are largely immobile, bind tightly to the clay-like soils and have low solubilities in water. The most contaminated portion of the site, the buried waste lagoon, is beneath 40 feet of demolition debris.

Ambient air contamination has not been determined to be a specific problem on the Skinner site. Sampling has indicated that concentrations of volatile chemicals in surface soils and water do not represent a significant source of concern for air. Additionally, the depth of contaminated soils in the waste lagoon limits emissions of chemical to air.

### **5.2 Potential Health and Safety Hazards**

Work will usually occur in areas characterized (at least briefly) for health and safety risks or in which potential exposures have been predicted with reasonable accuracy. Possible health and safety hazards are discussed below. The primary hazards are due to the planned activities, not unexpected exposure to substances, dangerous conditions, or acts of third parties. Use of the protective equipment and procedures specified in Sections 6.0 and 8.0 will minimize the risks.

Field activities to be performed during the project are not expected to result in exposure to an airborne concentration of a substance above its OSHA Permissible Exposure Limit (PEL), with the possible exception of during intrusive activities. Work will be discontinued if field measurements or observations indicate that there is potential exposure to a hazard that was not anticipated, that is not adequately characterized and controlled, or that an exposure may exceed the protection afforded by the requirements of the activity-specific health and safety procedures and/or equipment. This SHSO will then upgrade levels with PPE or utilize other precautionary measures as appropriate.

Based upon the information in DUNN's possession, those hazardous substances which are known or suspected to be present at the site or in various media are shown on Table 1A and 1B. Published exposure limits for those substances are shown in Table 2. The activity-specific health and safety procedures presented in Appendix B may refer to one or more of these tables.

Hazards posed by exposures to excessive cold and heat stress will be minimized by incorporation of the Threshold Limit Values (TLVs) for physical agents promulgated by the American Conference of Governmental Industrial Hygienists (ACGIH).

Potential safety hazards include those inherent with the operation of equipment used in construction, especially that used for excavating. In addition, electrical safety is a concern in and near buildings and near energized wires (both above and below ground) and equipment. Fire safety is also a concern around equipment and at and in buildings.

The SHSO should contact DUNN's Albany Region Office periodically to discuss health and safety issues, if any, with the project manager, RHSO or CHSO. Telephone numbers of the nearest emergency care facility, ambulance service, and local fire and police departments, and the route to the emergency care facility, should be made readily available to employees, in writing, before they enter a site. Figure 2 is a map showing the route to the nearest hospital. Emergency telephone numbers are provided in Table 5.

During initial site characterization, potential hazards arising from unstable topography, water bodies, building conditions, construction debris, plants, insects or animals should be identified and recorded, and measures taken to avoid them.

Work in remote locations warrants careful consideration of protective clothing and first aid supplies for insect or animal bites/stings, etc. Proper supplies and use of the "buddy system" are especially important for employees who have known allergies. Employees requiring immediate access to special first aid supplies (e.g., prescription drugs for allergies) must so inform the SHSO and must obtain and arrange for the availability and administration of these medications as prescribed by their physician.

Employees are expected to adhere to the site owner/operator's health and safety rules, if any such rules exist, in addition to those in this FHSP. If there are inconsistencies between the owner/operator's rules and this FHSP, the Project Manager or RHSO should be contacted for assistance in resolving them. Whenever possible, all such rules should be reviewed prior to site access, to identify and resolve any such conflicts.

Eating, drinking, smoking, and the carrying of food or tobacco products are prohibited in a Level B or C work area or an associated decontamination area. All personnel must follow proper decontamination procedures (see Appendix) after any field activity conducted in a contaminated or potentially contaminated area and before eating, drinking or smoking.

### **5.3 Interim Remedial Measure Action Activities**

#### **5.3.1 Public Water Supply Installation**

Users of groundwater in the vicinity of the site, as determined by USEPA, will be connected to the existing public water supply. This work will be performed off-site, with no portion of the work being done on-site. Since the work is being performed off-site, no hazardous substances are expected to be encountered.

### **5.3.2 Fence Line Surveying and Installation**

#### **5.3.2.1 Surveying of Fence Alignment**

Surveying will be performed to locate and flag the alignment of the proposed fence. Based on our knowledge of the site, it is not anticipated that during the performance of this task that the contractor will come in contact with any significant concentration of hazardous substances. A site health and safety officer will be required to be on site during this activity to ensure that proper precautions are taken and proper procedures followed, in accordance with this field Health and Safety Plan.

#### **5.3.2.2 Fence Installation**

There will be a pre-bid walkover, which will be performed in accordance with the Field Health and Safety Plan. Approximately 5,000 feet of fence will be installed along the perimeter of the landfill cover area as shown on Figure 1 of the Scope of Work document. Since the entire fence is planned to be installed outside the perimeter of waste, it is not anticipated that contractor or oversight personnel will come in contact with any significant concentrations of hazardous substances. The substances which may be encountered are those which have been detected in the site-wide soils. These substances and their concentrations detected are presented in Table 1A. Table 2 lists published exposure limits for those substances. Action levels associated with worker exposure during this activity are shown in Table 3.

#### **5.3.4 Groundwater Sampling**

Existing monitoring wells at the site, as well as two new wells, will be sampled for the full TCL and TAL lists of parameters. The hazardous substances which have previously been detected in the groundwater and their concentrations detected are presented in Table 1B. Table 2 lists published exposure limits for those substances. Action levels associated with worker exposure during this activity are shown on Table 3.

#### **5.3.5 Groundwater Monitoring Well Installation**

Two additional wells will be installed near the downgradient property boundary. This area is removed from the area where contaminants have been detected. It is not anticipated that workers will come in contact with any significant concentration of hazardous substances. The hazardous substances, which have been previously detected in the groundwater and their concentrations, are presented in Table 1B. Table 2 lists published exposure limits for these substances. Action levels associated with worker exposure during this activity are shown on Table 3.

## **6.0 PROTECTIVE EQUIPMENT AND PROCEDURES**

### **6.1 Protective Equipment**

DUNN will provide Personnel Protective Equipment (PPE) for its employees and have PPE available for a limited number of visitors while DUNN is on site. Subcontractors to DUNN will be responsible to provide their own PPE.

Table 3 lists the activities to be conducted, along with the identified chemicals of concern, specific protection levels, Personal Protective Equipment materials of construction associated with each, and action levels associated with PPE upgrade requirements and work practice control measures. Table 4 indicates the PPE that constitutes protection at Levels B, C, and D.

All respiratory protection must be NIOSH-approved. Level B consists of an SCBA or an airline-supplied mask, plus a 5-minute escape bottle. Level C consists of a full-face or half-face air purifying respirator, which may use a cannister or cartridges and may be powered or negative-pressure/demand. Unless the SHSO directs otherwise, when respirators are used, cartridges should be changed after 8 hours of use or at the end of each shift and cannisters should be changed after 40 hours of use or at the end of each week. Either type should be changed immediately if any indication of breakthrough or excess resistance to breathing is detected.

A first aid kit and vehicle will be kept in close proximity to the site. A fire extinguisher rated 20A-B-C (or higher) will be kept in, or at the perimeter of, each work area where intrusive activity occurs unless the SHSO determines that the potential for fire is low.

### **6.2 Protective Procedures**

Reusable PPE must be properly decontaminated and inspected after each use, then stored in a clean, dry location. Applicable procedures apply when donning PPE at Level B or C include:

- Confirm that all required PPE is available, the proper type, and in good condition.
- Don protective coveralls and gather top half around waist.
- Don outer boots and seal at boot/suit junction.
- Don inner gloves.
- Don top half of protective coveralls and seal.
- Don respiratory protection, perform positive and negative pressure fit check, and seal to protective coveralls.

- Don outer gloves and seal to protective coveralls.
- Check all closures and (Level B only) air supply.

### 6.3 Environmental Monitoring

Monitoring will be conducted by the Health and Safety Officer during the fence installation, groundwater sampling activity, and the groundwater monitoring well installation. The results will be evaluated to determine the appropriate level of PPE necessary for each task employed.

	Type of Monitoring	Frequency/Location
(X)	Organic Vapors (HNU or Photovac PID, or OVA)	1/B&A
( )	Oxygen Content (Alarm setting: 19.5% minimum)	
( )	Lower Explosive Limit (Alarm setting/limit: 10% maximum)	
( )	Hydrogen Sulfide (Alarm setting: 10 ppm maximum)	
( )	Noise (dBA scale)	
(X)	Particulates (Limit: PEL = 10 mg/m <sup>3</sup> )	1/B&A
( )	Radioactivity	
(X)	Draeger Tube - Type: Vinyl Chloride Methylene Chloride Chloroform Carbon Tetrachloride Benzene	3/B
( )	Other:	

1 = Continuous; 2 = <15 min. interval; 3 = Initial entry and as needed;  
4 = PID reading >1 ppm;

(Int) = Monitoring required only during intrusive activities;

A = General area; B = Breathing zone; P = Work area perimeter; S = Source

#### **6.4 Personnel and Equipment Decontamination**

The work is expected to be performed in Level D protection. As such, no decontamination is required. In the event that site conditions require a change in protection to Level C, decontamination procedures included in the appendix will be followed.

#### **6.5 Medical Surveillance and Training Requirements**

Each employee and subcontractor entering a site regulated by OSHA in 29 CFR 1910.120 must be in compliance with the requirements therein for medical surveillance and for training as they apply to that site and the duties/tasks to be performed, and also have received instruction in the proper use, care, and storage of respiratory protective equipment, and passed a fit test, within the past year. Documentation of compliance must be provided.

Each employee will be informed of the following before entering a site regulated under 29 CFR 1910-120 for the first time, and thereafter each time a significant change occurs:

- The existence of this FHSP and its requirements.
- Potential hazards which may be encountered, including those attributable to the substances listed in Table 1.
- The use, testing, care, and limitations of the PPE to be worn.
- The demarcation system that will be used to identify restricted-access areas.
- Decontamination procedures for employees, PPE, and equipment and supplies.
- Emergency alarm, evacuation, and response procedures.
- Methods to obtain outside assistance.

## 7.0 EMERGENCY PROCEDURES

The SHSO is responsible for ensuring that appropriate procedures are followed and the Project Manager, Project Advisor, CHSO, or RHSO is notified if an emergency occurs which involves an employee or subcontractor. If deemed necessary by the RHSO, a daily sign-in/sign-out sheet may be used to account for employees and/or subcontractor personnel.

### Notification and Initial Response

The SHSO is to be notified of any on-site emergency. Upon the occurrence of an emergency, including an unplanned chemical release, fire or explosion, within or adjacent to the site, all employees will be alerted and the danger area evacuated immediately. Re-entry will be limited to that necessary to assist injured or ill employees, and only after appropriate PPE has been donned. If a fire (beyond the incipient stage) or explosion occurs anywhere on-site, a local fire department will be alerted.

One or more of the alarm system(s) identified below will be utilized to alert employees to evacuate a danger area:

- ☐ Air Horn
- ☒ Direct Verbal Communication (10 employees or less)
- ☐ Radio or Cordless Telephone (Remote locations)
- ☐ Other:

Standard hand signals will also be used as necessary:

Hand gripping throat	Can't breathe/Out of air
Grip partner's wrist	Leave area immediately - No debate!
Hands on top of head	Need assistance
Thumbs up	Yes/Okay
Thumbs down	No/A problem

Upon activation of an alarm, employees in or near the danger area who are not involved in the initial response activities will proceed to the designated assembly area. That area will be determined by the SHSO and updated as necessary depending upon work conditions, the weather, air monitoring results, etc. Employees will remain there until their presence has been noted.

### **Equipment Failure**

If a failure or alteration of PPE occurs that reduces the protection factor (e.g., torn garment or odor inside respirator), the employee (and buddy, if any) will immediately leave the work area and not re-enter until the cause is known and the item has been repaired or replaced. If any other equipment fails to operate properly, the SHSO will be notified and will then determine the effect of that failure on operations. If the failure adversely affects the safety of any employee (e.g., failure of monitoring equipment) or prevents completion of the planned tasks, all employees so affected will leave the work area until appropriate corrective actions have been taken.

### **Employee Illness or Injury**

If an employee is injured or ill, employees will initiate or obtain appropriate first aid and, if required, make contact with a physician or medical facility and/or summon an ambulance.



## TABLES

**TABLE 1A**  
**Summary of Chemicals Detected in the Site-Wide Soils**  
**(units in mg/Kg)**

<u>Compound Name</u>	<u># of Detections</u>	<u>Percentage of Detections</u>	<u>Range of Detected Concentrations</u>
Antimony	9 / 46	19.6%	4.9 - 14.9
Cadmium	7 / 46	15.2%	0.54 - 11
Chromium	44 / 46	95.7%	6.7 - 97
Copper	34 / 46	73.9%	12 - 574
Lead	46 / 46	100.0%	3.7 - 1030
Silver	9 / 46	19.6%	0.54 - 4.3
Zinc	45 / 46	97.8%	36.2 - 10200
Cyanide	3 / 46	6.5%	0.84 - 1.8
Methylene Chloride	10 / 47	21.3%	0.0014 - 7.9
Acetone	9 / 47	19.1%	0.0089 - 34
2-Butanone	2 / 47	4.3%	0.031 - 0.045
Benzene	4 / 47	8.5%	0.00049 - 0.0022
Tetrachloroethene	6 / 47	12.8%	0.0021 - 2.7
Toluene	16 / 47	34.0%	0.001 - 0.36
Chlorobenzene	1 / 47	2.1%	0.002 - 0.002
Ethylbenzene	4 / 47	8.5%	0.001 - 0.002
Xylene (total)	10 / 47	21.3%	0.001 - 0.016
4-Methylphenol	2 / 45	4.4%	0.11 - 0.14
Naphthalene	1 / 45	2.2%	0.22 - 0.22
2-Methylnaphthalene	1 / 45	2.2%	0.064 - 0.064
Diethylphthalate	1 / 45	2.2%	0.078 - 0.078
Phenanthrene	11 / 45	24.4%	0.085 - 4.2
Anthracene	3 / 45	6.7%	0.092 - 0.34
Di-n-Butylphthalate	8 / 45	17.8%	0.055 - 0.49
Fluoranthene	15 / 45	33.3%	0.12 - 7.9
Pyrene	15 / 45	33.3%	0.13 - 8.5
Butylbenzylphthalate	4 / 45	8.9%	0.43 - 7
Benzo(a)Anthracene	11 / 45	24.4%	0.069 - 4.34
Chrysene	15 / 45	33.3%	0.06 - 5.56
bis(2-Ethylhexyl)Phthalate	16 / 45	35.6%	0.045 - 12
Di-n-Octyl Phthalate	2 / 45	4.4%	0.07 - 0.96
Benzo(b)Fluoranthene	8 / 45	17.8%	0.22 - 6.17
Benzo(k)Fluoranthene	5 / 45	11.1%	0.05 - 0.76
Benzo(a)Pyrene	6 / 45	13.3%	0.062 - 5.6
Indeno(1,2,3-cd)Pyrene	5 / 45	11.1%	0.29 - 1.5
Benzo(a,g,h,i)Perylene	5 / 45	11.1%	0.31 - 1.7
4,4'-DDE	1 / 29	3.4%	0.044 - 0.044
Endrin	2 / 29	6.9%	0.61 - 0.65
4,4'-DDD	2 / 29	6.9%	0.01 - 0.11
4,4'-DDT	2 / 29	6.9%	0.013 - 0.097
Aroclor-1254	7 / 29	24.1%	0.14 - 980
Hexachlorobenzene	6 / 71	8.5%	0.073 - 23
Hexachlorobutadiene	2 / 71	2.8%	0.0017 - 0.0041

**TABLE 1A (Cont'd)**  
**Summary of Chemicals Detected in the Site-Wide Soils**  
**(units in mg/Kg)**

<u>Compound Name</u>	<u># of Detections</u>	<u>Percentage of Detections</u>	<u>Range of Detected Concentrations</u>
Heptachloronorborene	3 / 26	11.5%	0.0011 - 0.0027
Total HEPTA CDD	2 / 8	25%	0.000001 - 0.000205
Total OCTA CDD	1 / 8	12.5%	0.000192 - 0.000192
2,3,7,8-TCDF	1 / 8	12.5%	0.000008 - 0.000008
Total TETRA CDF	1 / 8	12.5%	0.000008 - 0.000008

... Not Detected

This table was adapted from Table 2-3 in the Baseline Risk Assessment, June, 1991, EPA work Assignment No. 04-5L73.

**TABLE 1B**  
**Summary of Chemicals Detected in the Groundwater**  
**(units in Mg/L)**

<u>Compound Name</u>	<u># of Detections</u>	<u>Percentage of Detections</u>	<u>Range of Detected Concentrations</u>
Aluminum	30 / 94	31.9%	0.017 - 55.6
Arsenic	25 / 89	28.1%	0.002 - 0.0612
Barium	83 / 94	88.3%	0.003 - 5.95
Cadmium	6 / 42	14.3%	0.00053 - 0.064
Chromium	27 / 94	28.7%	0.004 - 0.137
Cobalt	17 / 86	19.8%	0.003 - 0.31
Copper	52 / 94	55.3%	0.002 - 0.163
Lead	23 / 89	25.8%	0.00282 - 0.54
Manganese	85 / 94	90.4%	0.0104 - 18
Nickel	26 / 89	29.2%	0.009 - 0.41
Vanadium	25 / 83	30.1%	0.0021 - 0.135
Zinc	52 / 94	55.3%	0.001 - 1.33
Cyanide	2 / 89	2.2%	0.011 - 0.0235
Vinyl Chloride	4 / 69	5.8%	0.004 - 0.048
Chloroethane	5 / 69	7.2%	0.017 - 0.052
Methylene Chloride	7 / 94	7.4%	0.003 - 0.014
Acetone	13 / 89	14.6%	0.002 - 5.9
1,1-Dichloroethane	4 / 69	5.8%	0.001 - 0.082
1,2-Dichloroethene	8 / 89	9.0%	0.005 - 4.5
Chloroform	4 / 74	5.4%	0.001 - 0.085
1,2-Dichloroethane	7 / 53	13.2%	0.005 - 0.18
2-Butanone	3 / 89	3.4%	0.006 - 0.036
1,1,1-Trichloroethane	3 / 89	3.4%	0.0026 - 0.012
Carbon Tetrachloride	2 / 80	2.5%	0.003 - 0.0067
1,2-Dichloropropane	3 / 33	9.1%	0.021 - 0.37
Trichloroethene	2 / 33	6.1%	0.002 - 0.071
1,1,2-Trichloroethane	1 / 33	3.0%	0.055 - 0.055
Benzene	17 / 89	19.1%	0.001 - 20
Tetrachloroethene	5 / 89	5.6%	0.001 - 0.02
1,1,2,2-Tetrachloroethane	1 / 33	3.0%	0.006 - 0.006
Toluene	9 / 94	9.6%	0.0013 - 3.1
Chlorobenzene	6 / 89	6.7%	0.001 - 0.027
Ethylbenzene	6 / 89	6.7%	0.005 - 0.08
Xylene (total)	3 / 89	3.4%	0.034 - 0.18
Phenol	6 / 88	6.8%	0.002 - 0.67
bis(2-Chloroethyl)Ether	9 / 83	10.8%	0.001 - 0.24
1,4-Dichlorobenzene	6 / 83	7.2%	0.0035 - 0.011
Benzyl Alcohol	1 / 53	1.9%	0.001 - 0.001
1,2-Dichlorobenzene	1 / 33	3.0%	0.006 - 0.006
2-Methylphenol	1 / 53	1.9%	0.45 - 0.45
4-Methylphenol	2 / 88	2.3%	0.14 - 0.35
Naphthalene	11 / 83	13.3%	0.00073 - 0.064
2-Methylnaphthalene	1 / 63	1.6%	0.003 - 0.003
Pentachlorophenol	6 / 63	9.5%	0.015 - 0.26

**TABLE 1B (Cont'd)**  
**Summary of Chemicals Detected in the Groundwater**  
**(units in Mg/L)**

<u>Compound Name</u>	<u># of Detections</u>	<u>Percentage of Detections</u>	<u>Range of Detected Concentrations</u>
Di-n-Butylphthalate	7 / 83	8.4%	0.00061 - 0.003
bis(2-Ethylhexyl)Phthalate	7 / 83	8.4%	0.001 - 0.012
Aldrin	1 / 54	1.9%	0.0005 - 0.0005
Dieldrin	1 / 65	1.5%	0.00013 - 0.00013
4,4'-DDT	2 / 59	3.4%	0.00006 - 0.00009
Aroclor-1254	2 / 59	3.4%	0.0002 - 0.0002
Hexachlorobenzene	10 / 116	8.6%	0.00002 - 0.00024
Hexachlorobutadiene	3 / 104	2.9%	0.000015 - 0.000087
Heptachloronorborene	3 / 52	5.8%	0.000052 - 0.00011

--- Not Detected

This table was adapted from Table 2-4 in the Baseline Risk Assessment, June, 1991, EPA Work Assignment No. 04-5L73.

**Table 2A**  
**Published Airborne Exposure Limits For**  
**Hazardous Substances Known To Be Present**  
**in Site-Wide Soils**

Substance	OSHA PEL/STEL	ACGIH TLV/STEL	NIOSH IDLH	Suspected Carcinogen?
<b>Organics</b>				
acetone	750/1,000	750/1,000	20,000	No
anthracene**	0.2/--	0.2/--	700	Yes
benzene	1/5	10/--	3000	Yes
benzo(a)anthracene	--	--	--	--
benzo(b)fluoranthene	--	--	--	--
benzo(k)fluoranthene	--	--	--	--
benzo(a)pyrene***	0.2/--	0.2/--	700	Yes
benzo(g,h,i)perylene	--	--	--	--
bis(2-ethylhexyl)phthalate*	5/10	5/10	--	Yes
butylbenzylphthalate	--	--	--	--
2-butanone	200/300	200/300	3,000	No
(methyl ethyl ketone)				
chlorobenzene	75/--	10/--	2,400	No
chlorodiphenyls (PCBs)* (aroclor-1254)	0.5/-- Skin	0.5/--	5	Yes
chloroform	2/--	10/--	1000	Yes
chrysene***	0.2/--	0.2/--	700	Yes
4,4'-DDE	--	--	--	--
4,4'-DDD	--	--	--	--
4,4'-DDT*	1/-- skin	1/-- skin	--	Yes
diethyl phthalate*	5/--	5/--	--	No
di-n-butylphthalate*	5/--	5/--	9,300	No
di-n-octyl phthalate	5/10	5/10	--	Yes
endrin*	0.1/- skin	0.1/- skin	2,000	No
ethylbenzene	100/125	100/125	2,000	No
fluoranthene	--	--	--	--
heptachloronorborene*	0.5/-- skin	0.5/-- skin	700	Yes
Total HEPTA CDD	--	--	--	--
hexachlorobenzene	--/-- skin	--	--	Yes
hexachlorobutadiene	0.02/--	0.02/--	--	Yes
indeno(1,2,3-cd)pyrene***	0.2/--	0.2/--	--	Yes
methylene chloride	500/1,000 Ceiling	50/--	5000	Yes
2-methylnaphthalene***	0.2/--	0.2/--	700	Yes
4-methylphenol (cresol)	5/-- skin	5/-- skin	250	No
naphthalene	10/15	10/15	500	No
Total OCTA CDD	--	--	--	--
phenanthrene	--	--	--	--
pyrene***	0.2/--	0.2/--	700	Yes
tetrachloroethene	25/--	50/200	500	Yes
(perchloroethylene)				
toluene	100/150	50/--	2,000	No
Total TETRA CDF	--	--	--	--
2,3,7,8-TCDF	--	--	--	--
xylene (o-,m-,p-)	100/150	100/150	1,000	No

**Table 2A (cont'd)**  
**Published Airborne Exposure Limits For**  
**Hazardous Substances Known To Be Present**  
**in Site-Wide Soils**

Substance	OSHA PEL/STEL	ACGIH TLV/STEL	NIOSH IDLH	Suspected Carcinogen?
<b>Inorganics</b>				
antimony*	0.5/--	0.5/--	80	No
cadmium*	0.005/0.005	0.05/--	--	Yes
chromium (VI)*	0.1/--	0.05/--	30	Yes
copper (fume)*	0.1/--	0.2/--	--	No
cyanides*	5/--	5/--	50	No
lead*	0.05/--	0.15/--	700	No
selenium*	0.2/--	0.2/--	--	No
silver	0.01/--	0.1/--	--	No
zinc (dust)*	10/--	10/--	--	No

**Concentration Units:** (blank) = ppm; \* = mg/m<sup>3</sup>; \*\* = f/cc (fibers per cubic centimeter); \*\*\* as coal tar pitch volatiles

**PEL:** Permissible Exposure Limit (time-weighted average for an 8-hour work shift) for an airborne concentration of a hazardous substance as listed by OSHA in 29 CFR 1910, Subpart Z.

**STEL:** Short Term Exposure Limit as a 15-minute time-weighted average.

**TLV:** Threshold Limit Value (as a time-weighted average) for an airborne concentration to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect, as established by the American Conference of Governmental Industrial Hygienists (ACGIH).

**IDLH:** Immediately Dangerous to Life and Health maximum concentration from which one could escape within 30 minutes without experiencing any escape - impairing or irreversible health effects, as established by the National Institute for Occupational Safety and Health (NIOSH). These values have not been peer reviewed, so caution is recommended in their application. (Note: Level C air-purifying respirators **do not** adequately protect an individual exposed to these concentrations.)

**CARCINOGEN:** A substance identified as a suspect or confirmed human carcinogen in one or more of the following documents: National Toxicology Program Annual Report on Carcinogens; International Agency for Research on Cancer Monographs; OSHA regulations in 29 CFR 1910, Subpart Z.

**SKIN:** Notation indicates that skin exposure is of significant concern.

**Table 2B**  
**Published Airborne Exposure Limits For**  
**Hazardous Substances Known To Be Present**  
**in Ground Water**

Substance	OSHA PEL/STEL	ACGIH TLV/STEL	NIOSH IDLH	Suspected Carcinogen?
<b>Organics</b>				
acetone	750/1,000	750/1,000	20,000	No
aldrin	--	--	--	--
benzene	1/5	10/--	3000	Yes
benzyl alcohol	--	--	--	--
bis(2-chloroethyl)ether	--	--	--	--
bis(2-ethylhexyl)phthalate*	5/10	5/10	--	Yes
2-butanone (methyl ethyl ketone)	200/300	200/300	3,000	No
carbon tetrachloride	2/--	5/-- Skin	300	Yes
chlorobenzene	75/--	10/--	2,400	No
chlorodiphenyls (PCBs)* (aroclor-1254)	0.5/-- Skin	0.5/--	5	Yes
chloroethane	1000/--	1000/--	20,000	No
chloroform	2/--	10/--	1000	Yes
4,4'-DDT* (4,4'-dichlorodiphenyltrichloroethane)	1/-- skin	1/--	--	Yes
1,2-dichlorobenzene	50 Ceiling	25/50 Skin	1000	No
1,4-dichlorobenzene	75/110	75/110	1000	Yes
1,1-dichloroethane	100/--	100/--	4,000	No
1,2-dichloroethane	1/2	10/--	1000	Yes
1,2-dichloroethene	200/--	200/--	4,000	No
1,2-dichloropropane	75/110	75/110	2,000	Yes
di-n-butylphthalate*	5/--	5/--	9,300	No
dieldrin*	0.25/-- skin	0.25/-- skin	450	Yes
ethylbenzene	100/125	100/125	2,000	No
heptachloronorborene*	0.5/-- skin	0.5/-- skin	700	Yes
hexachlorobenzene	--/-- skin	--	--	Yes
hexachlorobutadiene	0.02/--	0.02/--	--	Yes
2-methylphenol (see cresol)	5/-- skin	5/-- skin	250	No
4-methylphenol (see cresol)	5/-- skin	5/-- skin	250	No
2-methylnaphthalene	--	--	--	--
methylene chloride	500/1,000 Ceiling	50/--	5000	Yes
naphthalene	10/15	10/15	500	No
pentachlorophenol*	0.5/-- Skin	0.5/-- Skin	150	No
phenol	5/-- Skin	5/-- Skin	250	No
tetrachloroethene (perchloroethylene)	25/--	50/200	500	Yes
1,1,2,2-tetrachloroethane	1/-- skin	1/-- skin	150	Yes
toluene	100/150	50/--	2,000	No
1,1,1-trichloroethane (methyl chloroform)	350/450	350/450	1,000	No
1,1,2-trichloroethane	10/-- Skin	10/-- Skin	500	Yes
trichloroethene	50/200	50/200	1000	Yes
vinyl chloride	1/5 Ceiling	5/--	--	Yes
xylene (o-,m-,p-)	100/150	100/150	1,000	No



**Table 2B (cont'd)**  
**Published Airborne Exposure Limits For**  
**Hazardous Substances Known To Be Present**  
**in Ground Water**

Substance	OSHA PEL/STEL	ACGIH TLV/STEL	NIOSH IDLH	Suspected Carcinogen?
<b>Inorganics</b>				
aluminum (salts)*	2/--	2/--	--	No
arsenic*	0.01/--	0.2/--	100	Yes
barium (soluble)*	0.5/--	0.5/--	1100	No
cadmium*	0.005/0.005	0.05/--	--	Yes
chromium (VI)*	0.1/--	0.05/--	30	Yes
cobalt (dust)*	0.05/--	0.05/--	20	No
copper (fume)*	0.1/--	0.2/--	--	No
cyanides*	5/--	5/--	50	No
lead*	0.05/--	0.15/--	700	No
manganese*	5 Ceiling	1/3	--	No
nickel (soluble)*	0.1/--	0.1/--	--	Yes
vanadium*	0.05/--	0.05/--	70	No
zinc (fume)	5/--	5/--	--	No

**Concentration Units:** (blank) = ppm; \* = mg/m<sup>3</sup>; \*\* = f/cc (fibers per cubic centimeter)

**PEL:** Permissible Exposure Limit (time-weighted average for an 8-hour work shift) for an airborne concentration of a hazardous substance as listed by OSHA in 29 CFR 1910, Subpart Z.

**STEL:** Short Term Exposure Limit as a 15-minute time-weighted average.

**TLV:** Threshold Limit Value (as a time-weighted average) for an airborne concentration to which it is believed that nearly all workers may be repeatedly exposed day after day without adverse effect, as established by the American Conference of Governmental Industrial Hygienists (ACGIH).

**IDLH:** Immediately Dangerous to Life and Health maximum concentration from which one could escape within 30 minutes without experiencing any escape - impairing or irreversible health effects, as established by the National Institute for Occupational Safety and Health (NIOSH). These values have not been peer reviewed, so caution is recommended in their application. (Note: Level C air-purifying respirators do not adequately protect an individual exposed to these concentrations.)

**CARCINOGEN:** A substance identified as a suspect or confirmed human carcinogen in one or more of the following documents: National Toxicology Program Annual Report on Carcinogens; International Agency for Research on Cancer Monographs; OSHA regulations in 29 CFR 1910, Subpart Z.

**SKIN:** Notation indicates that skin exposure is of significant concern.

**TABLE 3**  
**Specific Tasks, Chemicals of Concern, and PPE Requirements**

<b>Task and Duration</b>	<b>Chemicals Of Concern</b>	<b>Minimum Materials of Construction</b>			
		<b>Minimum PPE Level (1)</b>	<b>Cartridge Type (2)</b>	<b>Glove Type (3)</b>	<b>Coverall Materials (4)</b>
Public Water Supply Install	See Tables 1 & 2	D	N/A	N/A	N/A
Survey And Fence Install	See Tables 1 & 2	D	N/A	N/A	N/A
Groundwater Sampling	See Tables 1 & 2	Modified C(5)	N/A	6	N/A
Groundwater Monitoring Well Install	See Tables 1 & 2	Modified C(5)	N/A	6	N/A

(1) Regardless of the minimum PPE level specified, Level C respiratory protection is required if steady-state breathing zone readings using an appropriate test method exceed 5 ppm above background of total Volatile Organic Compounds (VOCs) or the concentration of any substance exceeds 50% of its PEL, and Level B respiratory protection is required if:

- (a) Steady-state breathing zone readings exceed 25 ppm of total VOCs or 10 ppm of H<sub>2</sub>S, or the concentration of any substance exceeds 500% of its PEL; or
- (b) One or more hazardous substances may be present whose identity and concentration are not known and not predictable; or
- (c) Any hazardous substance expected to be present has poor warning properties (for detection of respirator leakage or cartridge breakthrough).

(2) OV = Organic Vapor; AG = Acid Gas; P = Particulate; HEPA = High Efficiency Particulate Air

**TABLE 3 (cont'd)**  
**Specific Tasks, Chemicals of Concern, and PPE Requirements**

- (3) 1 = Silver Shield; 2 = Neoprene; 3 = Natural Rubber; 4 = Nitrile; 5 = PVC; 6 = Latex; 7 = Viton
- (4) C = Cloth; T = Tyvek or Polyolefin; CT = Coated Tyvek; ST = Saranex Tyvek
- (5) Modified Level C protection includes use of latex gloves. Use of respiratory protection is optional, but will be required should air sampling demonstrate airborne levels of contaminants at 50% of the PEL or greater, or readings on the PID are 5 ppm or greater above background levels. Tyvek coveralls should be used if contact with groundwater is likely.

**TABLE 4**  
**Protective Equipment Levels**

	<b>B</b>	<b>C</b>	<b>D</b>
Respirator (supplied-air)	Yes	No	No
Respirator (air-purifying)	No	Yes	No
Coveralls	Yes	Yes	(1)
Gloves (chemical-resistant)	Yes	Yes	(1)
Gloves (disposable latex or vinyl)	Yes	(1)	(1)
Overboots (chemical-resistant)	Yes	Yes	(1)
Leather shoes/boots or safety shoes/boots	Yes	Yes	Yes
Eye protection	Yes	Yes	(1)
Hard hat	(1)	(1)	(1)
High-visibility vest	(2)	(2)	(2)
Life vest	(3)	(3)	(3)
Other:	(1)	(1)	(1)

- (1) Optional at discretion of employee and SHSO, unless required by site owner/operator.
- (2) Required within 15 feet of an active road, unless yellow or orange coveralls are worn.
- (3) Required when working over, or within 3 feet of the edge of, a body of water with a maximum depth of 4 feet or more.

**TABLE 5**  
**Emergency Services**

<b><u>Emergency Services</u></b>	<b><u>Phone Number</u></b>
Fire Department	(513) 777-1133
Police	(513) 777-1133
Ambulance	911
Physician	(518) 482-0666
Hospital/Clinic	(513) 867-7400
Local Emergency Planning Committee	(513) 887-3472
National Response Center	(800) 424-8802
CHEMTREC (Chemical Emergency Advice)	(800) 424-9300

## **8.0 APPENDICES**

Appendices applicable to this FHSP are indicated below:

- ☒ (X) Field Safety (Mandatory)
- ☒ (X) Trench or Test Pit Digging
- ☒ (X) Drilling
- ☐ ( ) Confined Space Entry
- ☒ (X) Sampling
- ☐ ( ) Asbestos Sampling
- ☒ (X) Decontamination Procedures
- ☒ (X) Site Control
- ☐ ( ) Heat Stress
- ☐ ( ) Cold Stress
- ☐ ( ) Site Layout Map or Sketch Showing Location(s) of Planned Activities
- ☒ (X) Map or Sketch Showing Preferred Route to Emergency Health Care Facility
- ☐ ( ) Instrument Maintenance and Calibration Procedures

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February 26, 1993

## **FIELD SAFETY**

1. The SHSO should contact the office periodically to confirm that no health- or safety-related incident has occurred.
2. The telephone numbers of the nearest emergency care facility, ambulance service, and local fire and police departments, and the route to the emergency care facility, should be readily available in writing before employees enter a site.
3. During initial site characterization, potential hazards arising from unstable topography, presence of water, building defects, construction debris, plants, insects or animals should be identified and recorded, and measures taken to avoid them.
4. Work in remote locations warrants careful consideration of protective clothing and first aid supplies for insect or animal bites/stings, etc. Proper supplies and use of the buddy system are especially important for employees who have known allergies. Employees requiring immediate access to special first aid supplies (e.g., prescription drugs for allergies) must so inform the SHSO and must obtain and arrange for administration of these medications as prescribed by their physician.
5. Employees are expected to adhere to the site owner/operator's health and safety rules in addition to those in this FHSP. If there are inconsistencies between the owner/operator's rules and this FHSP, the Project/Task Manager or RHSO should be contacted for assistance in resolving them. Whenever possible, all requirements should be reviewed prior to site access, to identify and resolve any such conflicts.
6. Eating, drinking, smoking, and the carrying of food or tobacco products are prohibited in a Level B or C work area or an associated decontamination area.
7. All personnel should wash thoroughly after any field activity and before eating, drinking, or smoking.

## **TRENCH OR TEST PIT EXCAVATION**

Protection and control measures that are applicable to the excavation of trenches or test pits include:

1. Identification of underground hazards (including power or gas lines, which are generally less than 4 feet deep) through interviews with knowledgeable individuals, thorough review of plans, and possibly a survey of the area with metal detection or geophysical instruments.
2. Notification of Dig Safe (or equivalent) and/or utilities at least 24 hours in advance. When possible, underground power lines should be de-energized (and locked out) and pipelines secured (valves turned off and locked out, and lines purged if possible) before work begins and while it is in progress.
3. Careful positioning of equipment with respect to: unstable soil; known or suspected buried objects; emergency access or evacuation routes; and the eventual edges of the excavation.
4. Observation by a watch person in communication with the equipment operator and alert to the presence of (unknown) buried objects by observation and/or instrument surveys.
5. Proper shoring and sloping of the sides in accordance with OSHA regulations in 29 CFR 1926, with daily (more frequently during wet weather) inspections for cracks, slides or scaling.
6. Air monitoring to trigger additional protective actions including temporary work stoppage or the use of vapor controls or suppressants and/or personal protective equipment. Trench or test pit digging may contain explosive vapors, concentrated toxic gases (especially those more dense than air), and/or an oxygen-deficient atmosphere. When approached or entered, they must be checked frequently to assure non-explosive, non-hazardous atmospheres.
7. Protection of excavations with barricades or covers when not continuously attended. Temporary pits/trenches should be backfilled promptly upon completion of the work.



## DRILLING

Protection and control measures that are applicable to the drilling or boring of holes and wells include:

1. Identification of underground hazards (including power or gas lines, which are generally less than 4 feet deep) through interviews with knowledgeable individuals, thorough review of plans, and possibly a survey of the area with metal detection or geophysical instruments.
2. Notification of Dig Safe (or equivalent) and/or utilities at least 24 hours in advance. When possible, underground power lines should be de-energized (and locked out) and pipelines secured (valves turned off and locked out, and lines purged if possible) before work begins and while it is in progress.
3. Careful positioning of the drilling rig with respect to: unstable soil, known or suspected buried objects, and emergency access or evacuation routes.
4. Provision of fully charged and readily accessible fire extinguishers.
5. Use of safety shoes, hard hats, eye protection, and snugly fitting garments when working around heavy equipment.
6. Provision of hearing protection if work patterns are expected to result in sustained exposure (> 1 hour) to noise levels in excess of 90 dBA . Operations which typically may result in such exposures include pneumatic percussion drilling, air rotary drilling, and split-spoon sampling involving high blow counts.
7. Minimization of exposure to diesel exhaust fumes (considered carcinogenic by NIOSH) by positioning (upwind, etc.) and/or using respiratory protection (organic vapor cartridges with filters for dust and mist).
8. Observation by a watch person in communication with the equipment operator and alert to the presence of (unknown) buried objects or contaminants.
9. Use of proper grounding, adequate support (e.g., blocks and guy wires), guards, strong and safe wires and ropes, and fire prevention measures such as periodic cleaning of the rig to remove combustible/flammable residues (oil, grease, etc.).
10. Precautions against rupturing or disconnecting a hose under pressure.
11. Use of appropriate techniques to contain drilling fluids and cuttings.

## SAMPLING

Collection and preservation of samples introduces potential health and safety hazards due to the decontamination and/or preservation materials used. The attached table highlights key hazards and precautions for some commonly used materials. Discussed below are key health and safety issues and recommended practices:

1. Protection from skin contact requires the selection and use of protective coverings that will resist the substances in question and not degrade upon contact with them. This is especially important for highly concentrated substances (e.g., free product, concentrated wastes, and decontamination substances). Thin, disposable latex or vinyl gloves are not designed to prevent entry of, or withstand prolonged contact with, many substances for which sampling is performed or which are used to decontaminate sampling equipment; they are primarily for quality control purposes.
2. When protection is necessary to prevent hand contact with hazardous substances, protective gloves should be worn under gloves used for quality assurance purposes. This may require the use of large or extra large quality assurance gloves to accommodate the inner protective gloves without ripping during donning and use.
3. Collection of samples containing high solvent concentrations may result in the liberation of volatile organic compounds at levels sufficient to warrant respirator use (in addition to skin protection), especially when high concentrations of substances or separate chemical layers are encountered.
4. During equipment decontamination involving extensive use of acetone, hexane, methanol, or other solvents, Level C respiratory protection (organic vapor cartridges) may be warranted. Also, improperly prepared (by a laboratory) acid preservatives in containers may release irritating "fumes" unexpectedly upon addition of liquid samples.
5. Eye, face, and skin protection are required during decontamination or sample preservation activities involving the use of concentrated inorganic acid.
6. Transport and storage of decontamination and preservation substances require appropriate safeguards to prevent contact between incompatible and/or combustible materials. For example, nitric acid is an oxidizer capable of starting a fire upon contact with flammable or combustible materials.

## COMMON SAMPLE DECONTAMINATION AND PRESERVATION AGENTS

<u>Chemical</u>	<u>PEL</u>	<u>Safety Hazard</u>	<u>Acute Health Hazard</u>	<u>Chronic Health Hazard</u>	<u>Precautions</u>
Acetone	750 ppm	Flammable	Respiratory Irritation  Dry, Cracked Skin		Well Ventilated Area, Respirator (OV)  Gloves (1)
Methanol	200 ppm	Flammable	Irritation of CNS Drowsiness, Light-Headedness  Dry, Cracked Skin	Vision Damage (Optic Nerve)	Well Ventilated Area, Respirator (OV)  Gloves (1,2)
Hexane	50 ppm	Flammable	Irritation, Light-Headedness  Dry, Cracked Skin	Nerve Damage (Polyneuritis), Numbness, Weak In Limbs	Well Ventilated Area, Respirator (OV)  Gloves (1,4)
Isopropanol	400 ppm	Flammable	Mild Irritation of Eyes, Nose, and/or Throat  Dry, Cracked Skin		Well Ventilated Area, Respirator (OV)  Gloves (1,2,4)
Nitric Acid (conc.)	2 ppm	Oxidizer	Fumes: Irritation of Eyes, Upper Respiratory Tract, Skin  Liquid: Burns of Eyes and Skin		Goggles, Skin Covering, Respirator (AG), Gloves (1,2,3,4)  Goggles/Face Shield, Skin Covering, Gloves (1,2,3,4), Eyewash Immediately Available

Respirator Cartridges: OV = Organic Vapor ; AG = Acid Gas

Gloves: 1 = Silver Shield, 2 = Neoprene, 3 = Natural Rubber, 4 = Nitrile

## DECONTAMINATION PROCEDURES

To minimize the movement of contaminants from a Level B or C work area to other areas, a decontamination station should be established in a designated Contaminant Reduction Zone at one edge of the Level B/C work area. At a minimum, it should consist of a plastic-covered work area with decontamination supplies, galvanized steel or plastic tubs to hold detergent solution and rinse water, and a scrub brush.

The following steps should be taken, as appropriate, to decontaminate **personnel** leaving a Level B or C work area:

1. Place equipment and sample containers on a plastic sheet.
2. Place disposable supplies, boot covers, and equipment in a labeled container.
3. Scrub non-disposable gloves and outer boots with a brush in detergent water, then rinse in clear water.
4. Remove and store or dispose of outer gloves and boots/boot covers.
5. Wash protective garments, then rinse.
6. Remove protective garments and hard hat.
7. Wash and rinse inner gloves.
8. Remove respiratory protection and place on a plastic sheet (exception: if contaminated with asbestos, remove face piece while under a shower).
9. Remove and store or dispose of inner gloves.
10. Thoroughly wash face and hands in fresh potable water.
11. Remove inner clothing and wash body (as necessary for final decontamination at end of shift), then re-dress.

Personnel must take the following steps to decontaminate **equipment** and sample containers leaving a Level B or C work area:

1. Don protective equipment at Level C (except that coveralls can be omitted at the discretion of the SHSO).
2. Wash reusable equipment in detergent solution and/or an appropriate solvent or steam clean, then rinse.
3. Dry sample containers with paper towels (if necessary) and place on a clean plastic sheet.
4. Remove and discard spent respirator cartridges. Wash respirator in fresh detergent water and rinse in clear water.

5. Treat respirator with a commercially available disinfectant designed for respirator cleaning (isopropyl alcohol or an iodine solution can be used if necessary, but may degrade rubber components). Store clean respirator in a closed plastic bag, away from sources of contamination.
6. Launder clothing before reuse (or place in appropriately labeled impervious containers for transport to a laundry).

Personnel must take the following steps to clean up following completion of work in a Level B or C work area:

1. Dispose of all washing and rinsing solutions into a labeled drum or an approved wastewater treatment system.
2. Place all solid waste materials (disposable gloves and garments, tape, plastic sheets, etc.) into labeled containers for disposal.

## **SITE CONTROL**

### **Access**

When appropriate, the SHSO will segregate the site into zones based upon historical knowledge, monitoring data, the nature of tasks to be performed, and site conditions as follows:

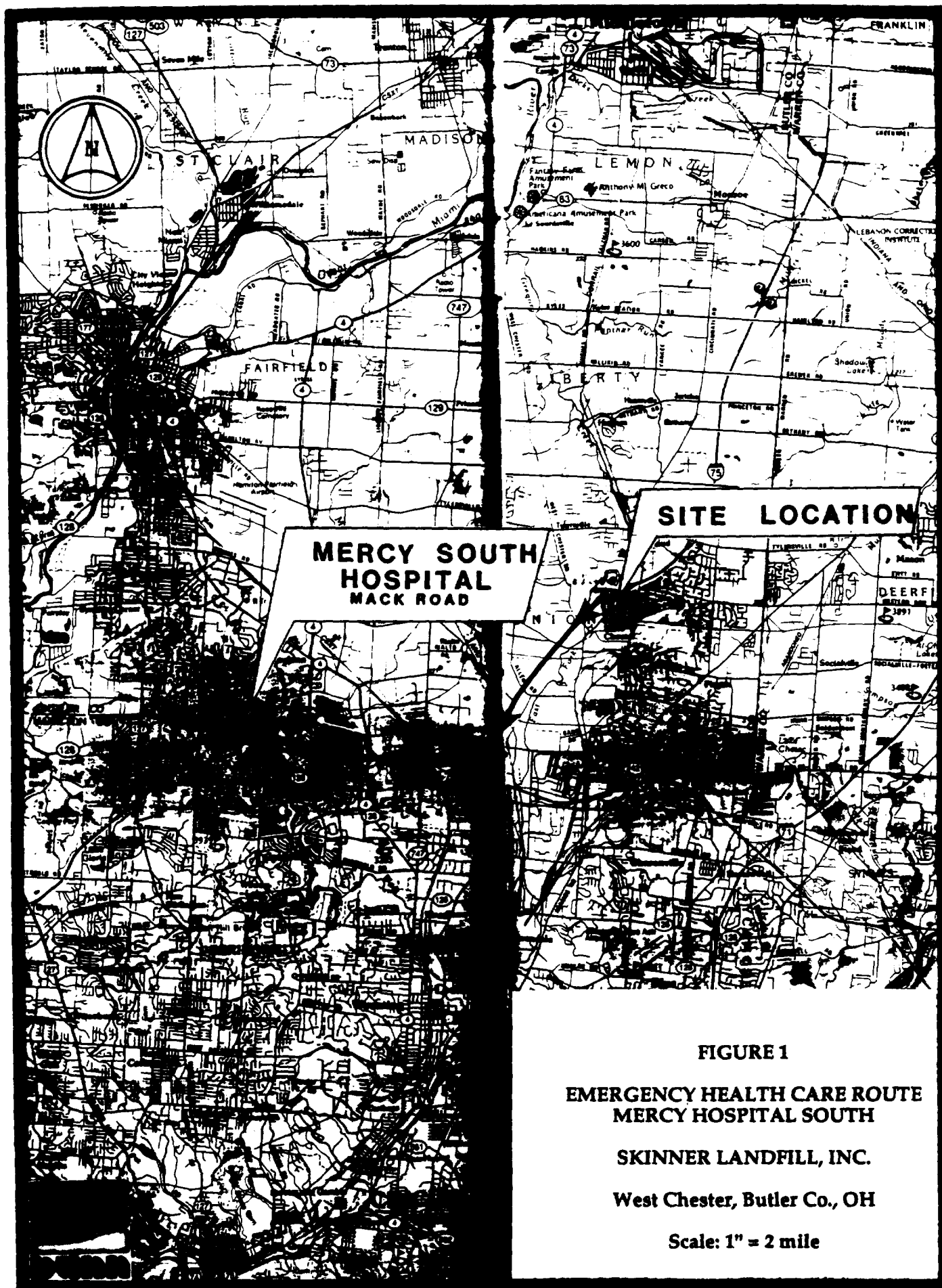
1. **Exclusion Zone (EZ)** - A work area involving potential contact with contaminants which will have its boundaries marked and to which access will be limited to employees who have the requisite training and protective equipment. A log of employees who enter will be maintained (may take the form of a sign-in sheet), and entry of unauthorized personnel will be prohibited. The boundaries will be changed as necessary depending upon the SHSO's judgment regarding work conditions, air monitoring, etc.
2. **Contamination Reduction Zone (CRZ)** - A marked area outside an EZ for employee and equipment decontamination, equipment storage and supply, and employee rest. It will be in an area expected to have minimal contamination, and will be subject to change based on the SHSO's judgment considering work conditions, air monitoring, etc.
3. **Support Zone (SZ)** - An area not known to be contaminated at a level of concern, where administrative and other support functions can be performed. SZ locations will be established by the SHSO considering distance from the EZ and CRZ, visibility, accessibility, freedom from potential contamination, etc. Their only marked boundaries will be at the edge of an EZ or CRZ.

### **Buddy System**

Each employee working in an EZ or CRZ at a site regulated by OSHA in 29 CFR 1910.120 must be under the observation of at least one other employee in or close to that area.

### **Emergency Response**

If anyone within an EZ cannot leave that area without assistance, all personnel in the vicinity will assemble in the CRZ or such other area as the SHSO may designate. After donning appropriate protective equipment as determined by the SHSO, a rescue team will enter the area to assist or remove the person. If entry requires the use of personal protective equipment for an IDLH environment (SCBA or equivalent), a similarly equipped support person will be stationed outside the EZ to lend assistance if necessary. The affected person will be decontaminated to the extent feasible prior to removal from the EZ.



## **Appendix C**

### **Public Water Connection and Well Abandonment Information**



## BUTLER COUNTY, OHIO

DEPARTMENT OF WATER AND SEWER  
WATER MAIN SPECIFICATIONS

(Short Form)

I. WATER MAIN

Size ..... Residential Area - 8" Minimum except for short Cul-De-Sacs and some secondary loop connections which may be 6" if approved by County Sanitary Engineer.  
Commercial - Industrial Areas - 10" Minimum unless specifically authorized by County Sanitary Engineer.

Material ..... Class 53 Ductile Iron Pipe ANWA C-151

Depth ..... 4' Minimum Depth to top of pipe from proposed finished grade. Minimum of 18" vertical separation between main and other pipes, conduits or structures when crossing perpendicular, and 10' when parallel.

II. FITTINGS ..... Gray, cast iron - class 250 ANWA C-110 or Ductile iron - Class 350 ANWA C-110 with mechanical joints per ANWA C-111.

III. VALVES

Type ..... ANWA C-500 or C-509, counter-clockwise opening gate valves. Butterfly valves, ANWA C-504.

Accessories ..... Valve box extended to finished grade with 18" x 18" x 4" concrete pad collar.

Location ..... Every 800' on main line extension and at each branch main connection. Valves located at street intersections shall be placed at the radius tangent point. Between intersections valves shall be placed at or near property line.

IV. FIRE HYDRANTS

Type ..... ANWA approved, "Break-Off" or "Traffic Type" with 5" main valve opening; two (2) 2 1/2" discharge nozzles and one (1) 4 1/2" pumper nozzle with National Standard Threads.

Accessories ..... Each hydrant shall be accompanied by an auxiliary valve and valve box. (See Valve Spec.)

Operation ..... Counter-clockwise opening.

**V. SERVICE CONNECTION**

Installation .... The service connection shall consist of a corporation stop; 3/4" (Min.) service line; and a meter pit or curb stop.

Location ..... A service connection shall be installed for each serviceable lot ending at a point on the front property line. Minimum depth shall be 48".

Material ..... Polybutylene, plastic SDR 9, 250 P.S.I. or ductile iron pipe to property line.

Service Marker .. A 2 x 4 shall be placed in a vertical position at the end of each service connection, extending approximately 3' above the existing grade. Marker shall be painted blue.

Finished Grade .. It is the responsibility of the developer, builder and lot owner to see that the meter pit or curb stop-box is adjusted to finished grade.

**VI. INSPECTION**

Inspection Requirements .... All work and materials must be inspected by an authorized agent of the Butler County Water Department. Contractors must notify the Water Department at least 24 hours in advance of initiating construction or amending a construction schedule.

Fees ..... An inspection fee equal to 1.75% of the approved estimate of cost of the proposed water system improvement shall be paid prior to initiation of construction.

Test ..... A hydrostatic and purity test shall be conducted prior to acceptance. Tests shall be conducted by the contractor under the supervision of the County.

A. Hydrostatic pressure test - ANWA C-600  
Section 4.1 & 4.2

B. Purity test - ANWA C-601

Acceptance ..... Initial acceptance will be made when the water mains and all appurtenances have been installed, tested and approved. Final acceptance will be made when final grade is established; appurtenances are adjusted to final grade; concrete collars are set around each valve box; and at least one full year of satisfactory operation is achieved.

**VII. EXTENSION TO DEVELOPMENT BOUNDARIES**

Water mains must be extended to the development boundary along each public roadway within or adjacent to the development.



**BUTLER COUNTY WATER  
AND SEWER DEPARTMENT**

BUTLER COUNTY ADMINISTRATION CENTER  
120 HIGH STREET • HAMILTON, OHIO 45011  
TELEPHONE: HAMILTON (513) 237-8671 • WHEELING (513) 404-3551  
FAX: (513) 237-1377

November 5, 1992

JAMES L. HINCHBERGER  
County Sanitary Engineer

To: Plumbers, Contractors and Equipment Suppliers  
Re: Change in Water Meter Specification

Please be advised that as a result of the upgrading of our meter reading system to a "Touch Read" system, it is necessary to change the model number of the water meter lids currently in use. The current specification calls for the use of a Wabash No. W-3 lid for 5/8" x 3/4" meters and a Monitor Cover #24, 30 or 36 with standard lid for 1", 1-1/2" and 2" meters, both by Ford Meter Box Company. The new specification requires that a Wabash No. WA-3LT for 5/8" x 3/4" meters and the same Monitor Covers #24, 30 or 36 with No. RML-1T lid for 1", 1-1/2" and 2" meters, both by Ford Meter Box Company be supplied. These lids are to be compatible with the "Touch Read" meter system.

Also be advised that because of the lack of durability of the plastic ties used to secure the meter yoke to the cross bar installed in our meter pits, we are requiring the use of stainless steel ties (i.e., radiator hose clamps).

Please note that these changes are shown on the revised "Standard Meter Settings" drawing, a copy of which is enclosed for your information. These changes are to be implemented immediately.

Thank you for your consideration. Please contact our Engineering Section should you have any questions regarding this matter.

Very truly yours,

Michael J. Foley, P.E.  
Deputy Sanitary Engineer

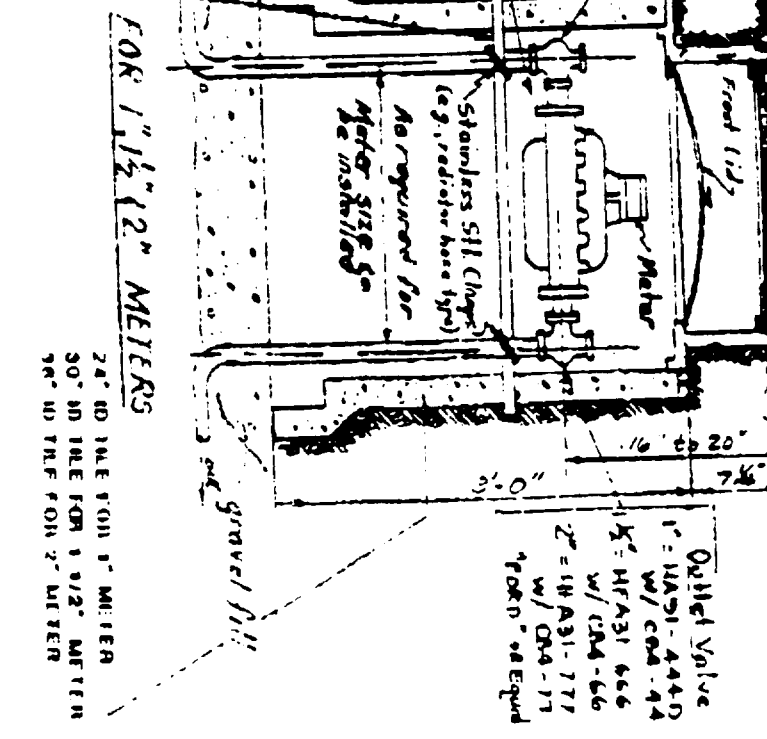
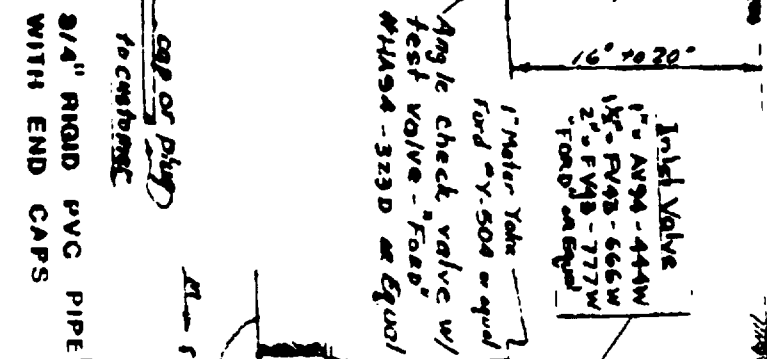
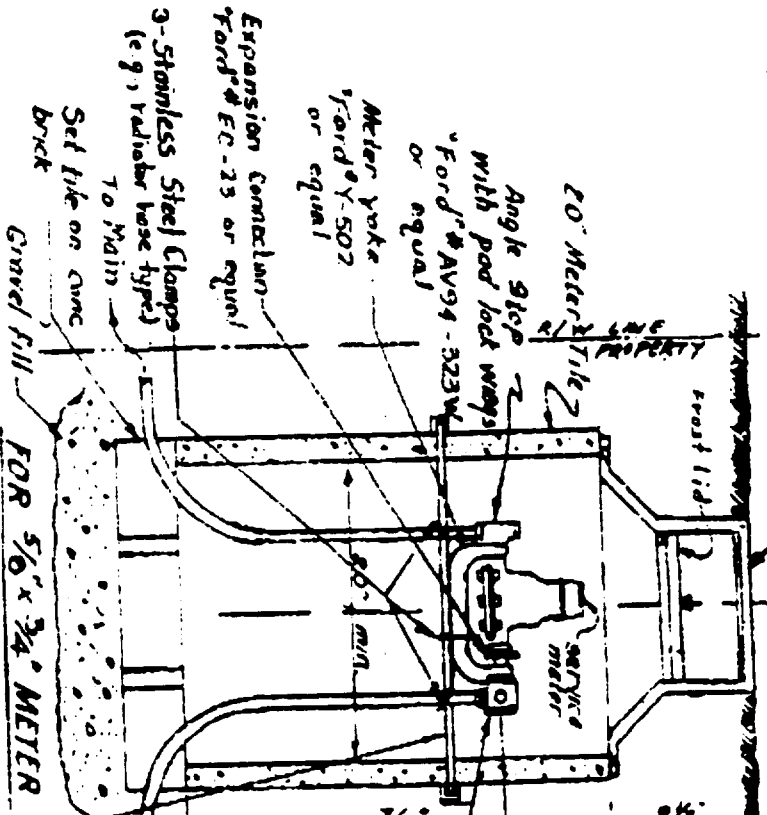
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cc: James L. Hinchberger, P.E., County Sanitary Engineer  
Engineering Section  
Elmer Myers, Chief Inspector  
Jack Shollenbarger, Special Services  
file

Butler County Commissioners

Cole E. Logsdon    Courtney E. Conboy    Henry C. Nelson

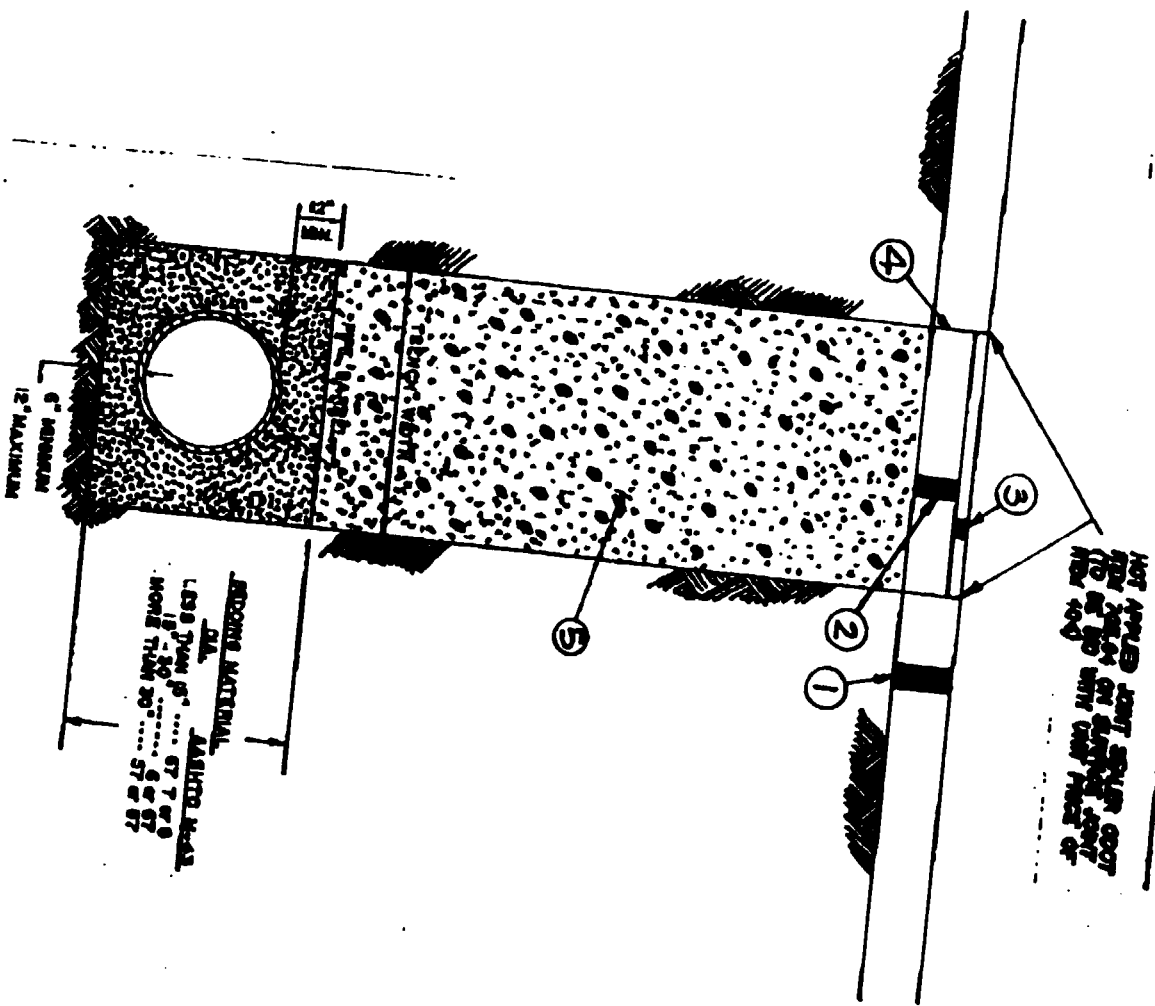
Double Lid Meter Box Cover  
 Mabosh No. WA-3LT manufactured  
 by Ford Meter Box Co. or equal



# STANDARD METER SETTINGS

24" ID METER FOR 1" METER  
 30" ID METER FOR 1 1/2" METER  
 36" ID METER FOR 2" METER

# PAVEMENT RESTORATION ROADWAY (TYP)



- ① EXISTING PAVEMENT
- ② 6" MED 301 BITUMINOUS AGGREGATE BASE  
(2-4" COURSES)
- ③ 2" MED 404 ASPHALT CONCRETE SURFACE COURSE
- ④ MED 407 TACK COAT APPLIED AT .10 gal/sy
- ⑤ LOW STRENGTH MORTAR BACKFILL PER PROPOSAL

BASE COURSE  
12" MAXIMUM  
12" MAXIMUM  
12" MAXIMUM

GUIDELINES FOR DESIGN  
OF  
SMALL PUBLIC WATER SYSTEMS

Division of Public Drinking Water  
Ohio Environmental Protection Agency  
1800 WaterMark Drive  
P.O. Box 1049  
Columbus, Ohio 43266-0149

Second Edition

Revised March, 1991

### 3.10 WELL ABANDONMENT

#### 3.10.1 Requirement

All wells which are not maintained for production, standby, or observation purposes are to be abandoned in accordance with Ohio Administrative Code 3745-9-10 to prevent contamination of groundwater for the protection of existing or future wells.

#### 3.10.2 Procedure

3.10.2.1 Engage a hydrogeologist or State-recognized well driller familiar with proper abandonment procedures to perform or supervise abandonment of the well.

#### 3.10.2.2 In general

- a. All materials which could interfere with abandonment must be removed from the well.
- b. Well screens and castings may be removed, slit or perforated as necessary.
- c. The casing should be removed to at least 4 feet below ground surface in all instances.
- d. Fill material is to be introduced at the bottom of the well and placed progressively upward. Concrete placed through a tremie pipe is a common practice.
- e. At a minimum, the upper 25 feet of the portion of the casing which is to remain must be filled with concrete. If necessary, the casing should be grouted.

Note: See latest edition of the Ohio EPA "Water Well Standards."

3.10.2.3 Record the location of the abandoned well or hole and submit copies of the record to the Ohio EPA and the Ohio Department of Natural Resources.

## **APPENDIX D**

### **Evaluation of the Groundwater Database-Inorganics**



## **EVALUATION OF GROUNDWATER INORGANIC DATABASE**

The Phase II RI indicates that there was no surface water contamination by inorganics. The Phase II RI does not determine the significance of the inorganic detections in groundwater and refers the reader to the Risk Assessment for a statistical analysis of the inorganic compounds detected. The Risk Assessment identified 13 inorganics as chemicals of concern. These compounds included aluminum, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, nickel, vanadium, zinc and cyanide. We have evaluated the database of inorganic detections to determine its significance.

To be a useful indicator that metals contamination is migrating away from the buried lagoon or landfill, the metal in question should have the following characteristics:

- Be consistently detected;
- Be detected only in wells spatially associated with the contaminant sources, OR, if found throughout the site, have either i) concentrations exceeding background levels primarily in wells spatially associated with the contaminant sources, or ii) have the highest concentrations primarily in wells spatially associated with the contaminant sources;
- Exceed applicable water quality standards primarily in wells spatially associated with the contaminant sources; and/or,

To determine which of USEPA's 13 inorganic "chemicals of concern" met these criteria, we prepared a database of the groundwater data from on-site monitoring wells. The data were then sorted by decreasing concentration for each of the 13 parameters and displayed as a series of bar graphs. Examination of these graphs is helpful in determining which parameters were consistently detected and in defining the background concentration (the procedure for this is described below).

From a preliminary evaluation of the Phase I data for Sampling Rounds 1 and 2, we concluded that the use of data for unfiltered samples (of which there were seven in Round 1, counting duplicates separately) resulted in substantially biased data for 7 of the 10 parameters that were consistently detected. Therefore, we excluded these data and data from residential well samples, which are also unfiltered, from further analysis.

### **Notes on Handling of Data**

The database for the Phase I data (Sampling Rounds 1, 2, and 3) in USEPA's documents report only those parameters detected, and do not report the detection limits. (Thus, the absence of cadmium from this database does not mean that it was not analyzed for, simply that it was not detected). Non-detects in the Phase I data were entered in our database as very low numbers (0.00001 mg/L).

The database for the Phase II data report the detection limits for "non-detect" results. In its treatment of these data, USEPA used one-half the detection limit in its statistical analysis of

the data. Thus, we entered these non-detects in our database as one-half of the reported detection limits.

### **Graphical Analysis**

Because of the differences in the data, we prepared two graphs, which are included, for most of the parameters. The first graph separately sorts and plots the Phase I and Phase II data. Phase I data are designated on the bottom of the graphs as "F" (originally for filtered), and the Phase II data are designated as "A". The "A" portions of the graphs often show one or more plateaus representing the non-detect data. The fact that these are non-detects is important to keep in mind when examining the other graph, which combines the data in a single sorting. Combined plots were not done for several parameters (Cd, CN, and V) that showed strong differences between the Phase I and Phase II data. These differences were due to the very low number of detections in either or both of the phases.

Several of the graphs show a marked break in trend that separates a lesser number of high values from a greater number of low values. The graphs for barium and zinc show the best examples of this feature. This break point is taken as the background concentration. Some graphs showed no definable break and no background could be assigned.

If a background concentration could be defined, then we determined at which wells the background value was exceeded. If a background concentration could not be defined, we determined where the wells with the highest concentrations were located. For each well in question, we noted the number of exceedences or detections (as appropriate) out of the total number of sampling events from that well. We also noted if there was a primary or secondary drinking water MCL, and determined at which wells, if any, it was exceeded. This information was considered and based on best professional judgment, be made a recommendation for monitoring, if appropriate. This information is summarized in Table 1. The primary and secondary drinking water standards are from Rule 3745-81-11 of the Ohio Administrative Code.

### **Recommendations**

- Aluminum -- This compound is consistently detected above background, and has no potential for excess health risk. Therefore, quarterly monitoring is not appropriate.
- Arsenic -- This compound is fairly consistently detected above background, particularly at GW20 which is adjacent to sources, and there is an increasing concentration trend in GW20 exceeding the primary MCL.
- Barium -- Barium is consistently detected above background in several wells spatially associated with sources, and the primary MCL is exceeded in GW20. We recommend monitoring for Barium.
- Cadmium -- There were only two detections of cadmium in wells during the entire sampling. We do not recommend monitoring for cadmium.

- Chromium - Detections of chromium above background are infrequent, not consistent and not in wells spatially associated with sources. The concentrations are below primary MCL, and we do not recommend monitoring for chromium.
- Cobalt -- There are somewhat consistent detections in wells that are not spatially oriented to indicate groundwater impact. There have been no exceedences of the MCL. We recommend continued monitoring.
- Copper -- There was no definable background concentration, and detections were scattered throughout the site, with the highest detections not associated with the sources. The maximum concentration (0.015 mg/L) is well below the secondary MCL (1.0 mg/L). We do not recommend monitoring for copper.
- Lead -- There was no definable background concentration and detections were scattered across the site. The seven highest concentrations are in wells screened in bedrock, which consists of interbedded limestone and shale, and lead sulfide minerals are a common trace mineral in such shales. We do not recommend monitoring for lead.
- Manganese -- There are detections exceeding background scattered throughout the site, and the highest concentrations are not in and or adjacent to sources. We do not recommend monitoring for manganese.
- Nickel -- The data indicates consistent detections and the highest concentrations in wells spatially associated with sources. We recommend monitoring for nickel.
- Vanadium -- There was only one detection in the Phase I data, and multiple detections in Phase II data. The Phase II data is all "qualified" as Vanadium was detected in the blank; and this suggests that the detections are artifact of some aspect of Phase II sampling and/or analysis. We do not recommend monitoring for Vanadium.
- Zinc -- The detections exceed background and the highest concentrations at wells in or adjacent to sources. We recommend monitoring for zinc.
- Cyanide -- There were only two detections in the entire database. We do not recommend continued monitoring for this compound.

**TABLE 1**  
**EVALUATION DATA SUMMARY**

**1. Aluminum**

Estimated Background 0.100 mg/L

Background Exceeded at:

Well #	# of Exceedences/ # of Sampling Events
GW06	1/3
GW12	1/5
GW20	1/4
GW22	1/2

Applicable Water Quality Standard No P or S MCL

No Monitoring Recommended.

**2. Arsenic**

Estimated Background 0.010 mg/L

Background Exceeded at:

Well #	# of Exceedences/ # of Sampling Events
GW09	1/4
GW17	3/4
GW18	2/3
GW20	4/4
B5	1/1

Applicable Water Quality Standard P MCL - 0.050 mg/L

Monitoring Recommended.

**3. Barium**

Estimated Background 0.250 mg/L

Background Exceeded at:

Well #	# of Exceedences/ # of Sampling Events
GW06	1/3
GW07	1/5
GW09	3/4
GW10	2/4
GW19	1/3
GW20	3/4
GW30	1/1
GW31	2/2
GW35	1/1
GW38	1/1

Applicable Water Quality Standard

P MCL - 1.0 mg/L

Exceeded at:

GW06	1/3
GW20	1/4

Monitoring Recommended.

**4. Cadmium**

Estimated Background: Not definable

Detected at:

GW06	0.0025 mg/L
GW32	0.0037 mg/L

Both are "B" qualified (found in blank)

Applicable Water Quality Standard:

P MCL - 0.010 mg/L

Monitoring Not Recommended.

**5. Chromium**

Estimated Background: 0.0075 mg/L

Exceeded at:

Well #	# of Exceedences/ # of Sampling Events
GW06	1/3
GW15	1/5
GW19	1/3
GW22	2/2
GW23	1/3
GW30	1/1

Applicable Water Quality Standard: P MCL - 0.050 mg/L

Monitoring Not Recommended.

**6. Cobalt**

Estimated Background: Not definable

Detected at:

Well #	# of Exceedences/ # of Sampling Events
GW10	2/4
GW11	1/3
GW12	3/5
GW15	1/5
GW16	1/2
GW20	1/4
GW22	2/2
GW23	1/3

Applicable Water Quality Standard: None

Monitoring recommended.

## 7. Copper

Estimated Background: Not definable

Detected at: Various locations throughout the site with no spatial relationship to sources.

Applicable Water Quality Standard: S MCL - 1.0 mg/L

The secondary MCL was not exceeded, and the maximum concentration measured was 0.015 mg/L.

Monitoring not recommended.

## 8. Lead

Estimated Background: Not definable

Detected at: Locations throughout the site. The seven highest concentrations (0.008 mg/L to 0.034 mg/L) occurred in wells screened in bedrock. Lead sulfide minerals are common trace constituents in shales.

Applicable Water Quality Standard: P MCL 0.050 mg/L

Monitoring not recommended.

## 9. Manganese

Estimated Background: 0.900 mg/L

Detected at:

Well #	# of Exceedences/ # of Sampling Events
GW07	1/5
GW11	1/3
GW12	4/5
GW15	4/5
GW16	2/2
GW17	4/4
GW18	2/3
GW20	2/4
GW21	1/1

Applicable Water Quality Standard: S MCL - 0.050 mg/L

Exceeded at: Numerous locations on the site with no spatial relationship to sources.

Monitoring not recommended.

**10. Nickel**

Estimated Background: Not definable

Detected at:

Well #	# of Exceedences/ # of Sampling Events
GW07	1/5
GW10	2/4
GW11	1/3
GW12	5/5
GW15	2/5
GW16	2/2
GW17	2/4
GW18	1/3
GW20	4/4
GW22	1/2
GW23	1/3

Applicable Water Quality Standard: None

Monitoring recommended.

**11. Vanadium - Not Definable**

There was only one detection in the Phase I data. All other detections were in the Phase II data and were "B" qualified, suggesting laboratory or sampling artifact.

Monitoring is not recommended.



**12. Zinc**

Estimated Background: 0.030 mg/L

Exceeded at:

Well #	# of Exceedences/ # of Sampling Events
GW12	3/5
GW17	2/4
GW20	2/4
GW22	1/2
B5	1/1

Applicable Water Quality Standard: S MCL - 5.0 mg/L

The S MCL was not exceeded, but there is a good spatial relationship to sources.

Monitoring is recommended.

**13. Cyanide**

Estimated Background: Not definable

Detected at:

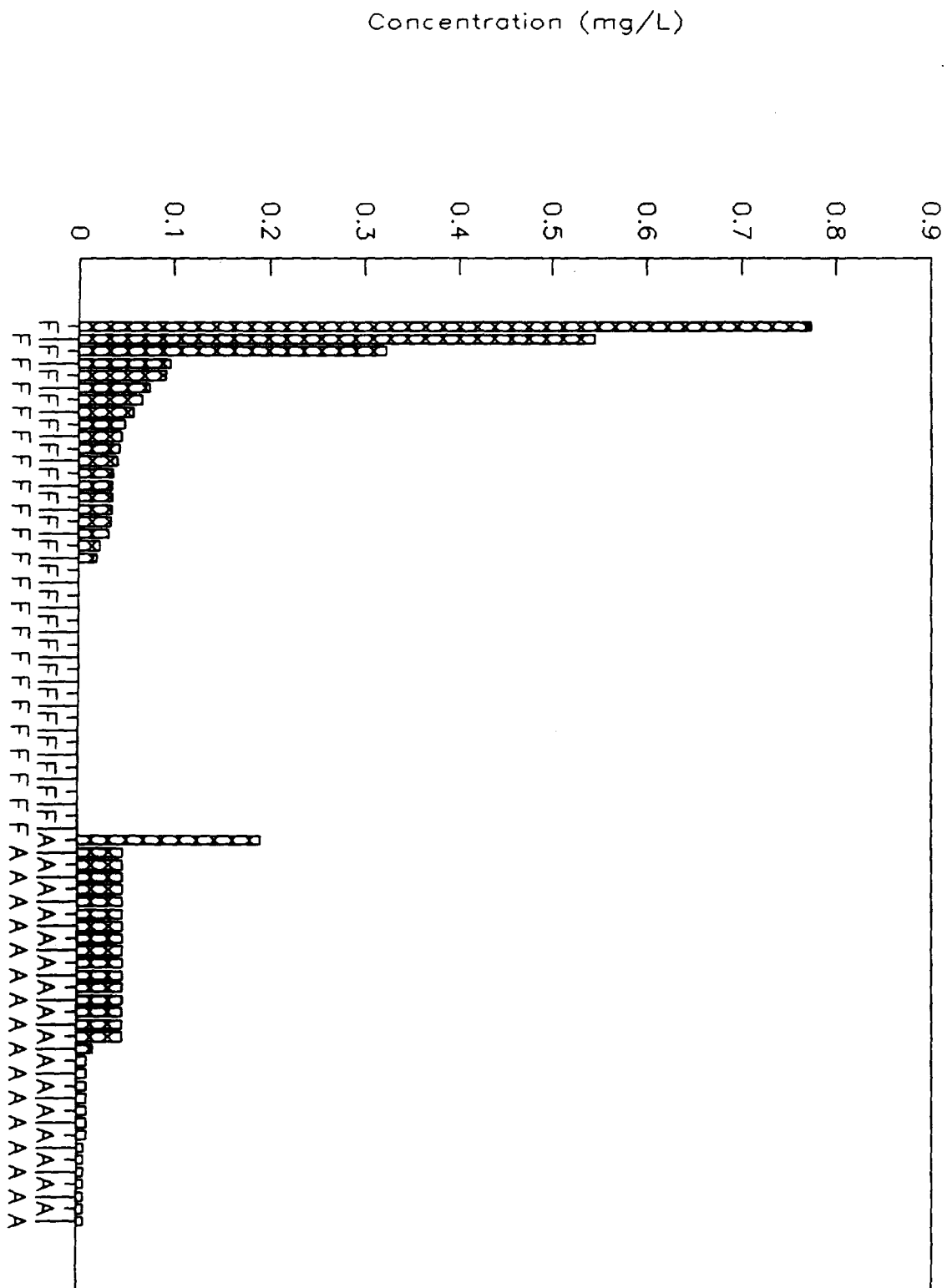
GW11	0.011 mg/L
GW20	0.0235 mg/L

The lack of detections indicate that monitoring is not necessary.

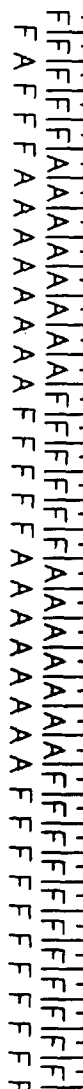
Monitoring is not recommended.

lib  
c:\word5\skinner.doc  
January 26, 1993

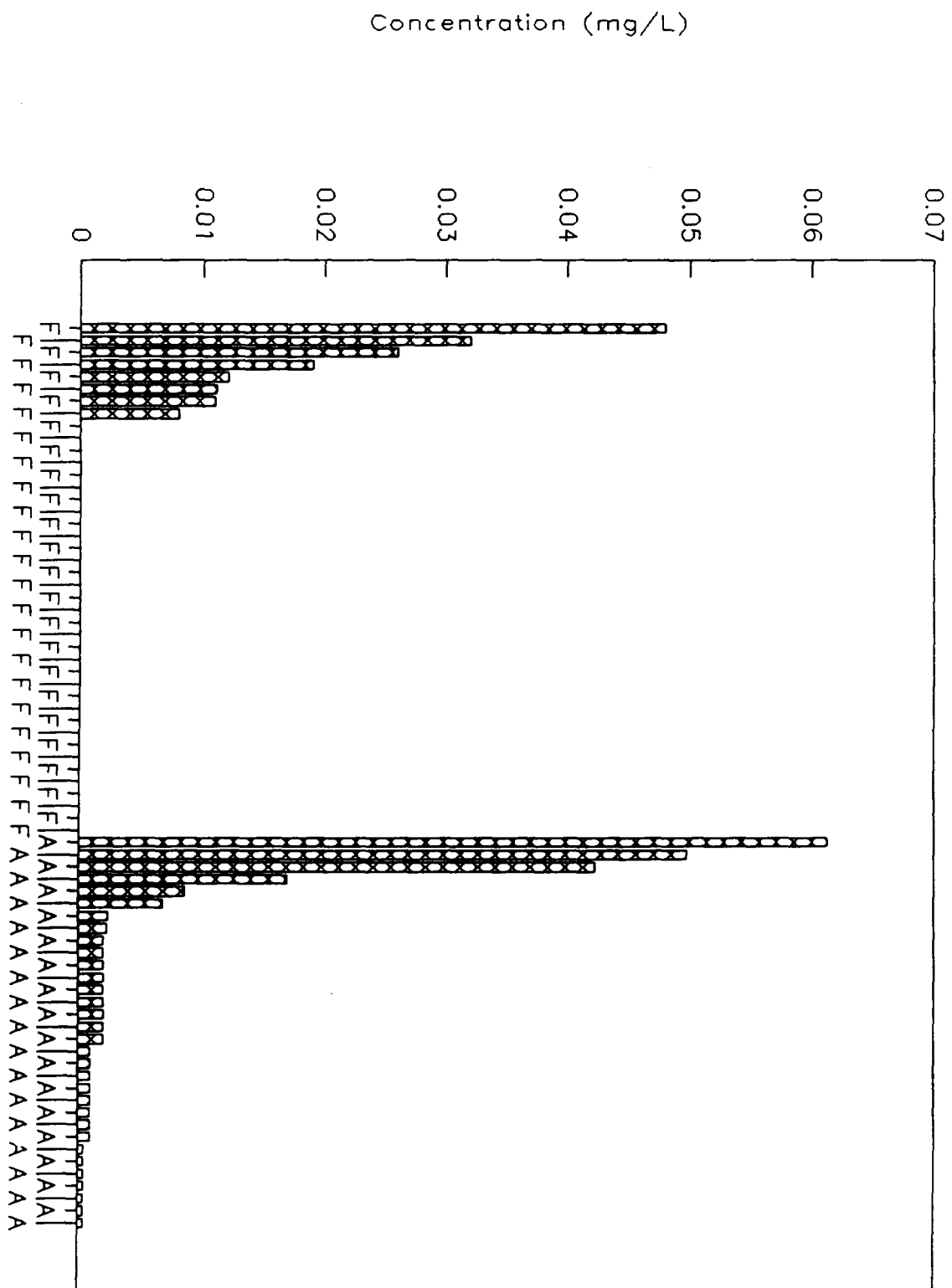
Skinner Landfill GW Metals  
Aluminum



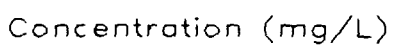
## Aluminum



Arsenic

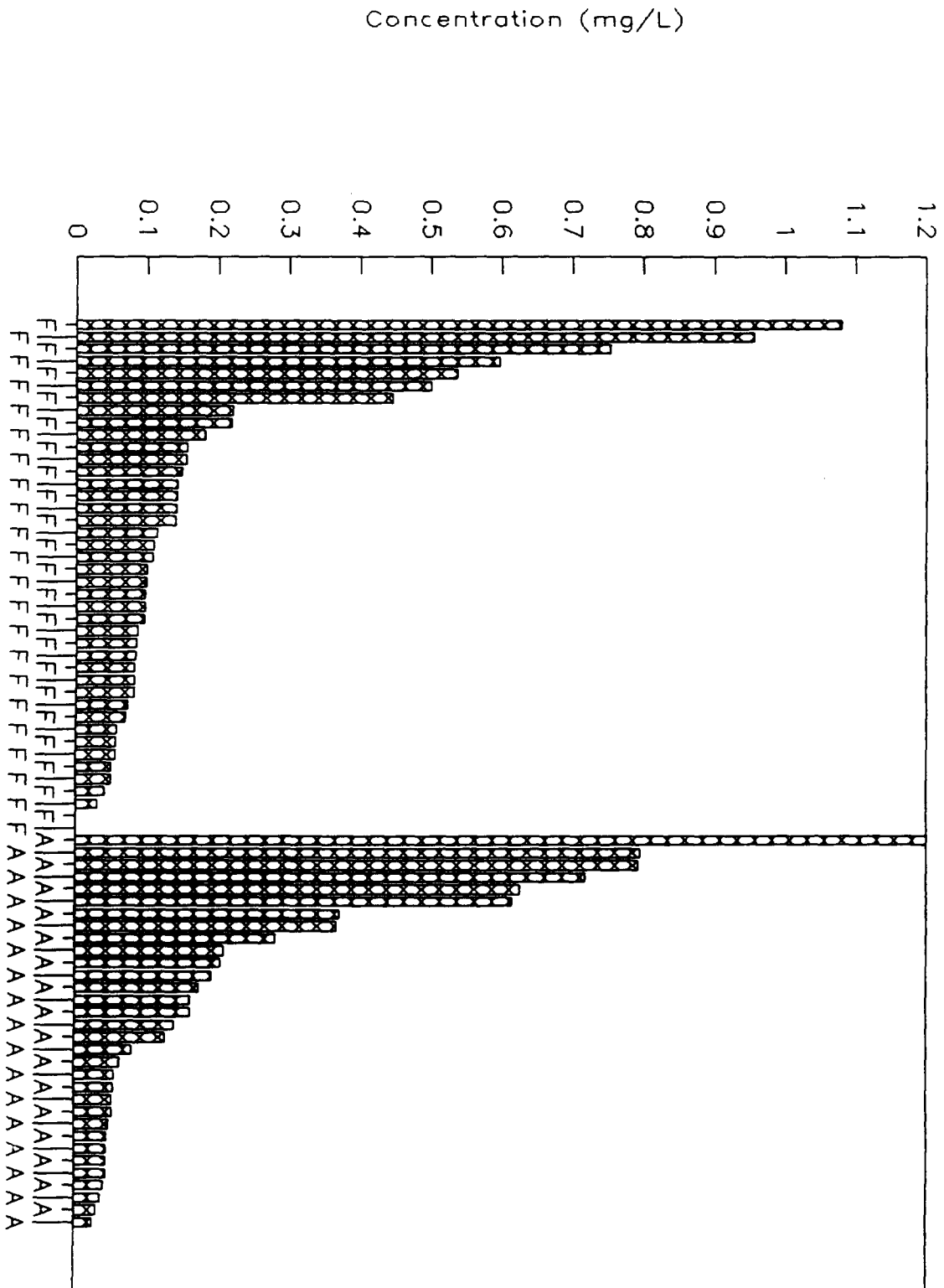


## Arsenic

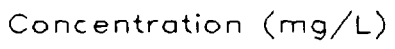


# Skinner Landfill GW Metals

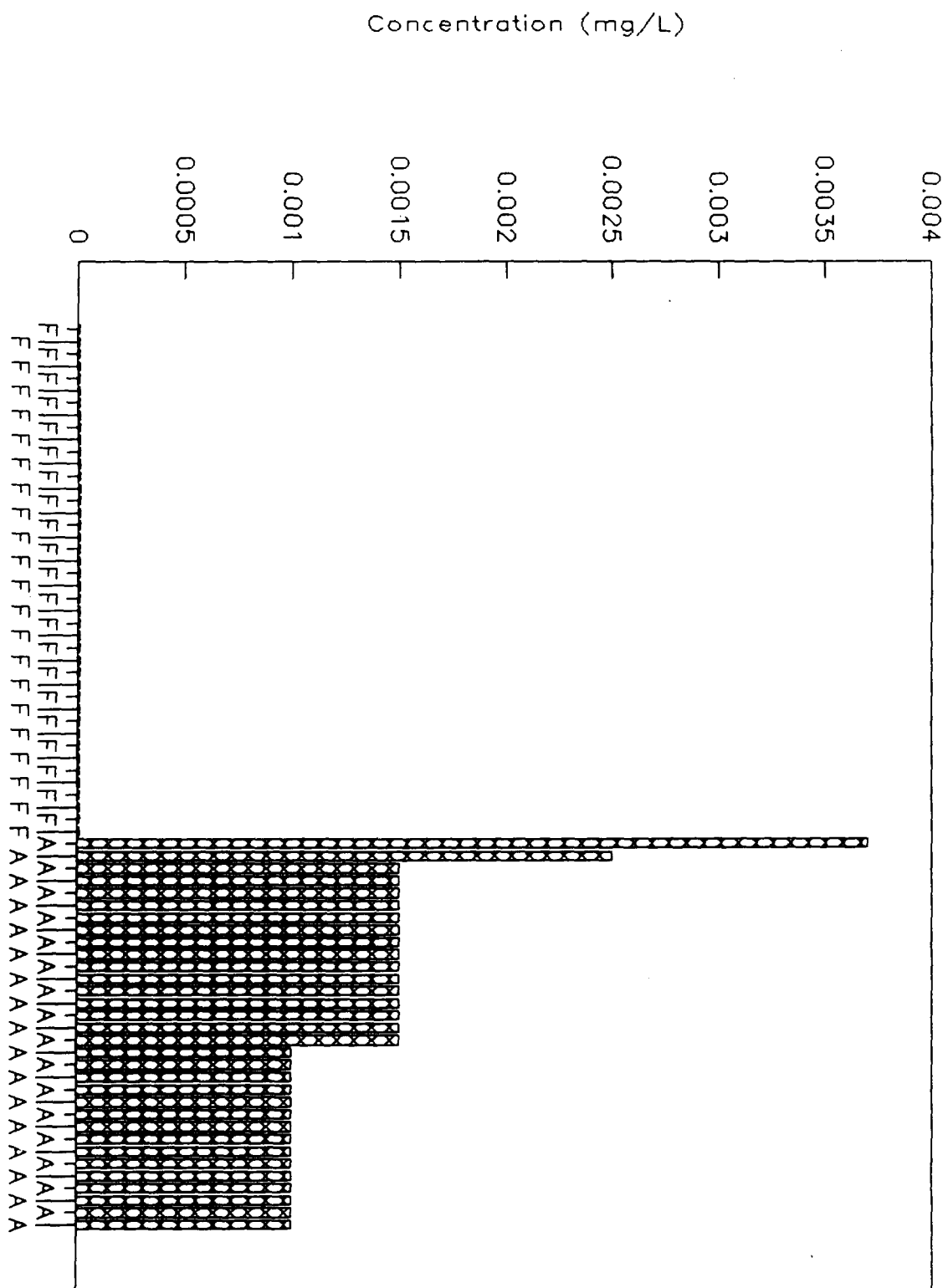
Barium



## Barium

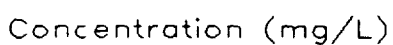


## Cadmium

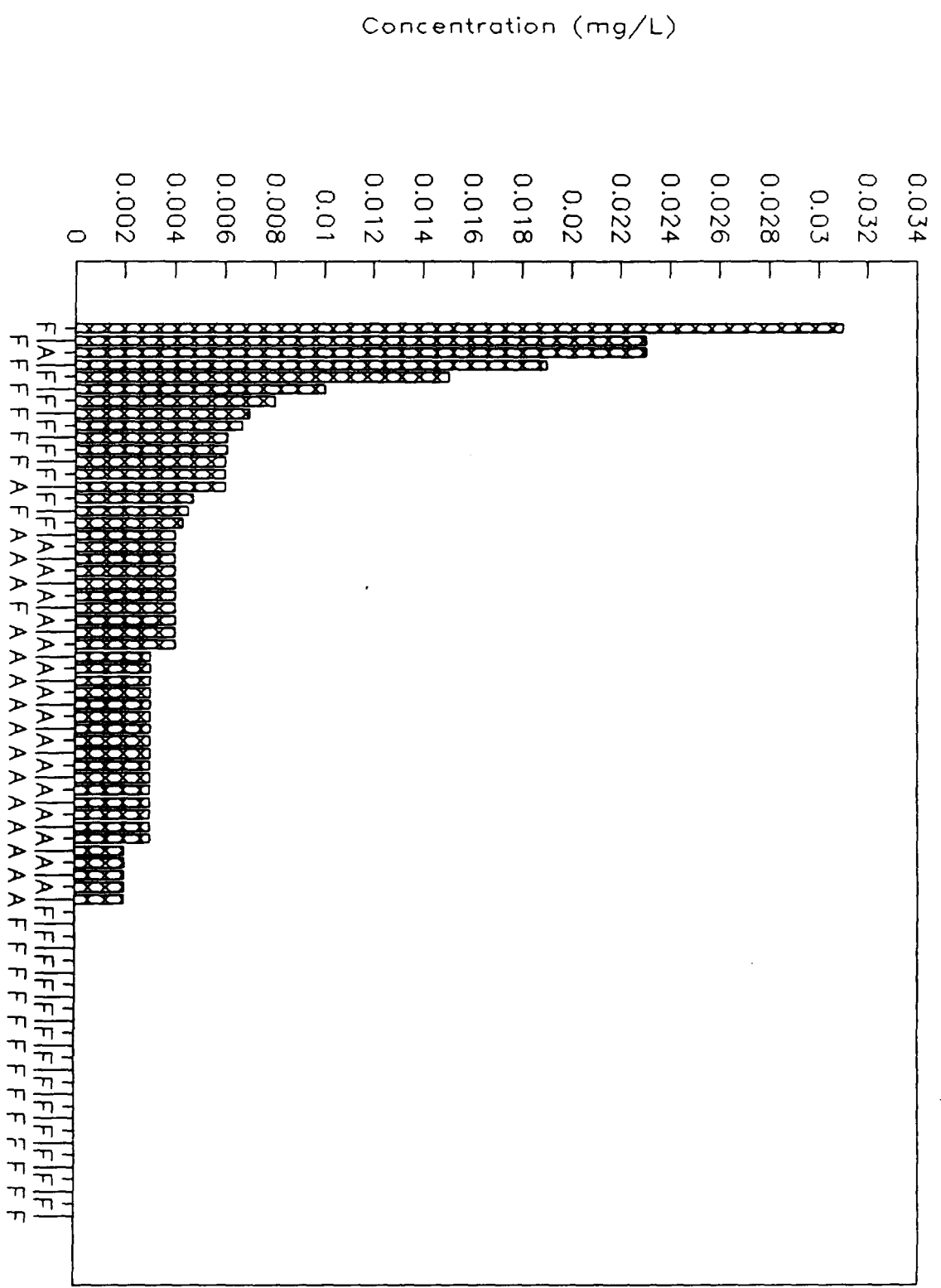




## Chromium

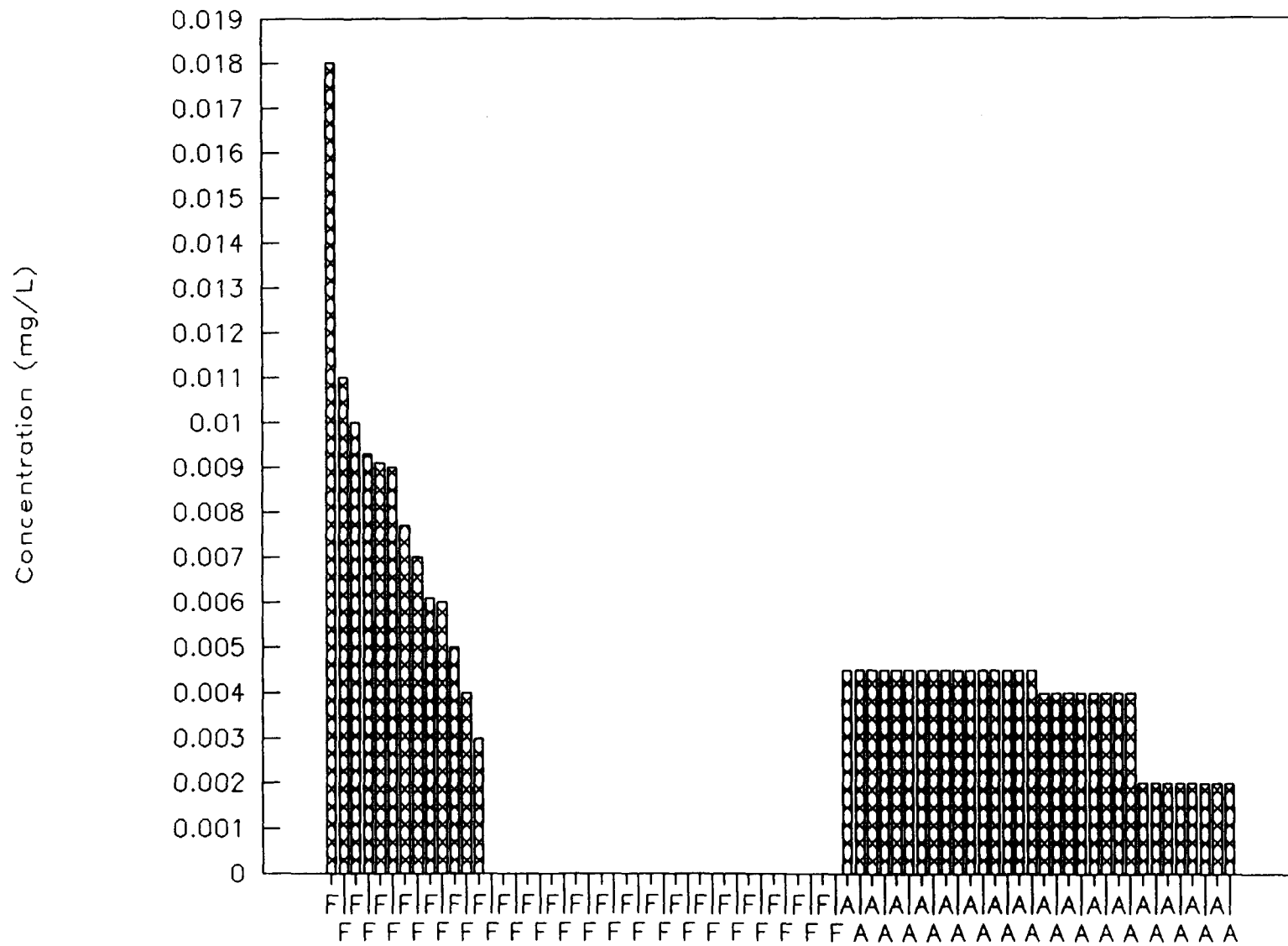


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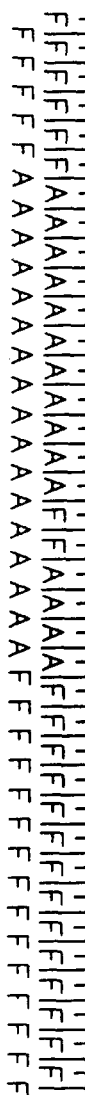


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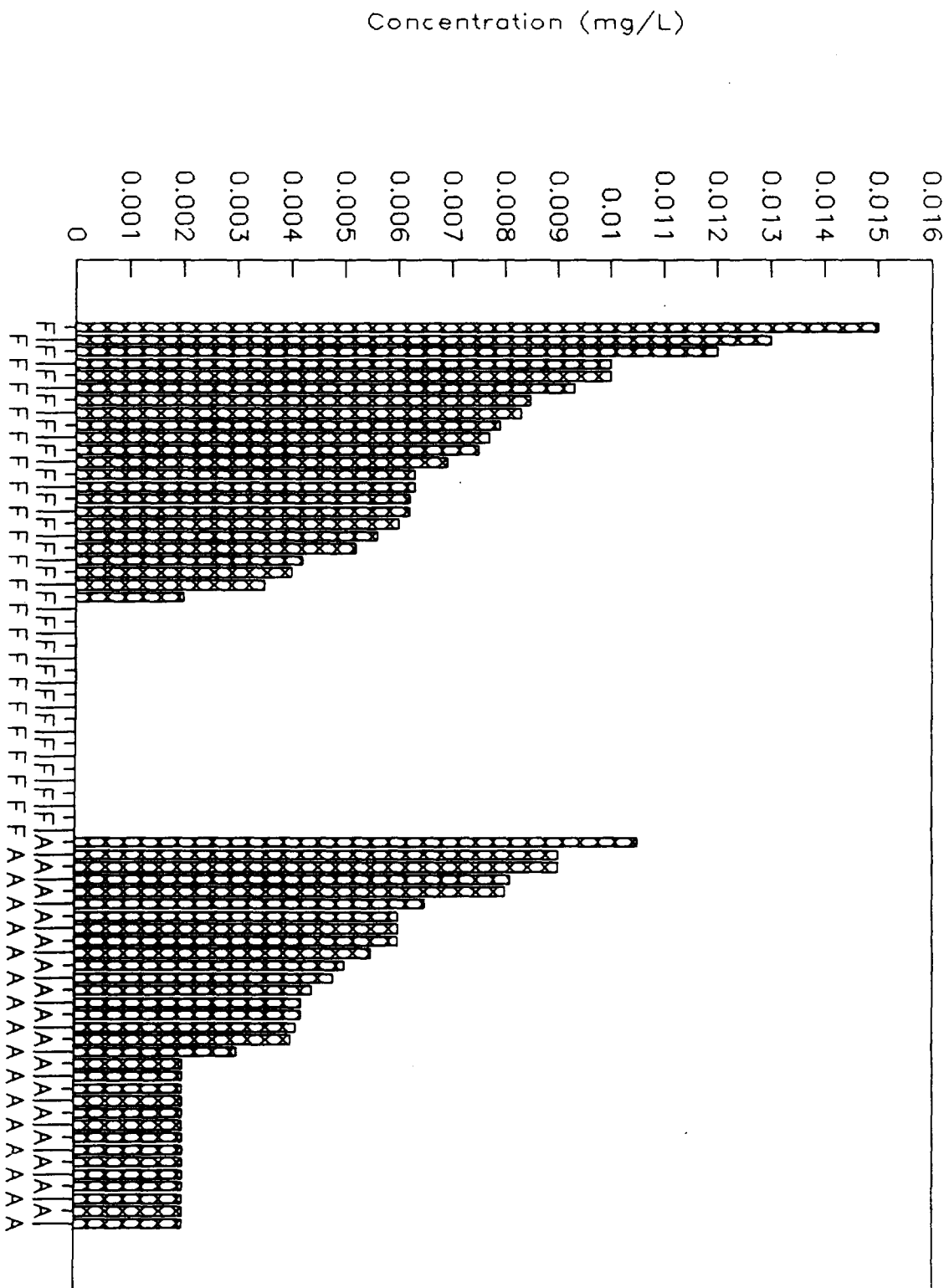
Cobalt



## Cobalt

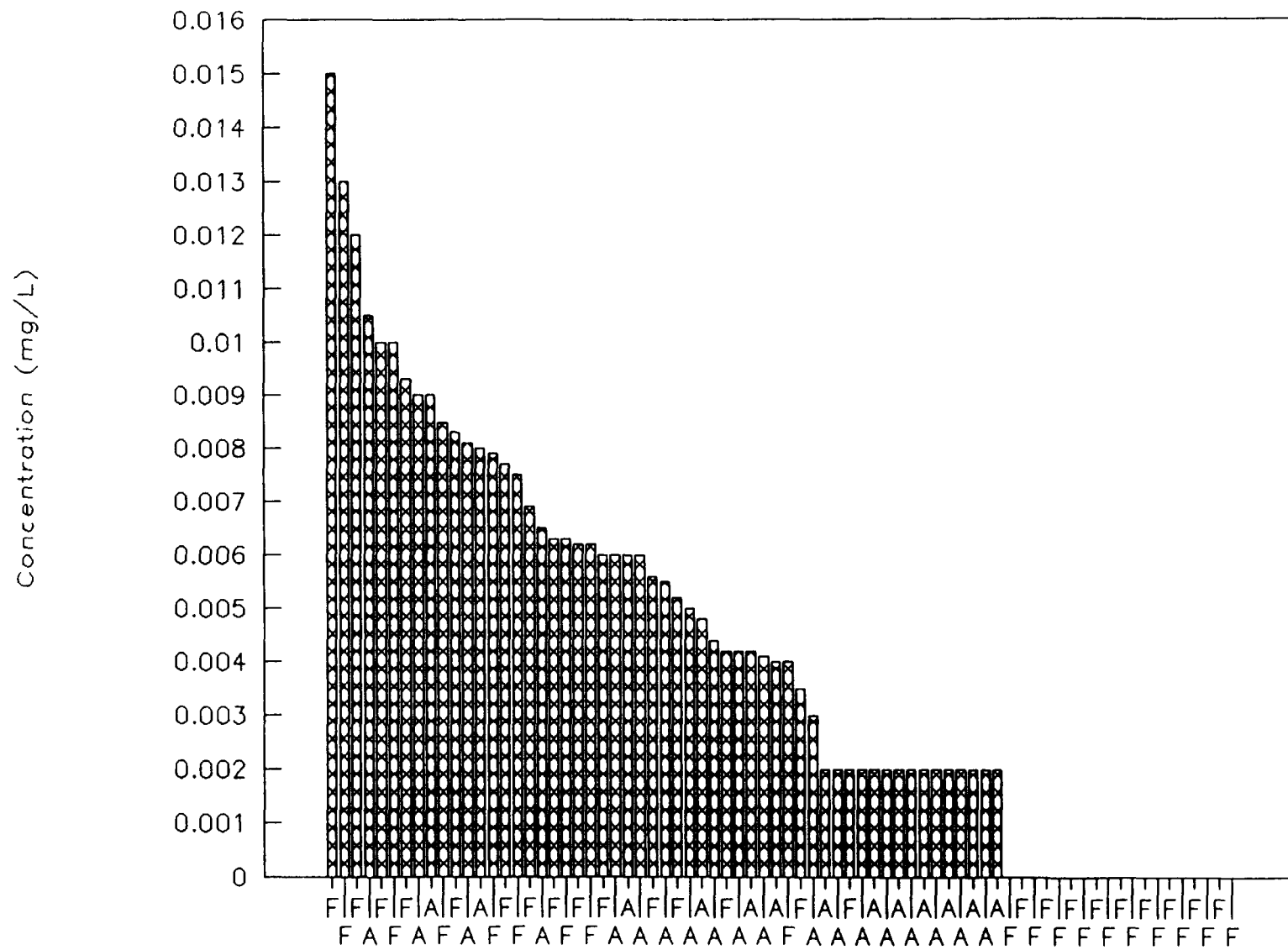


## Copper



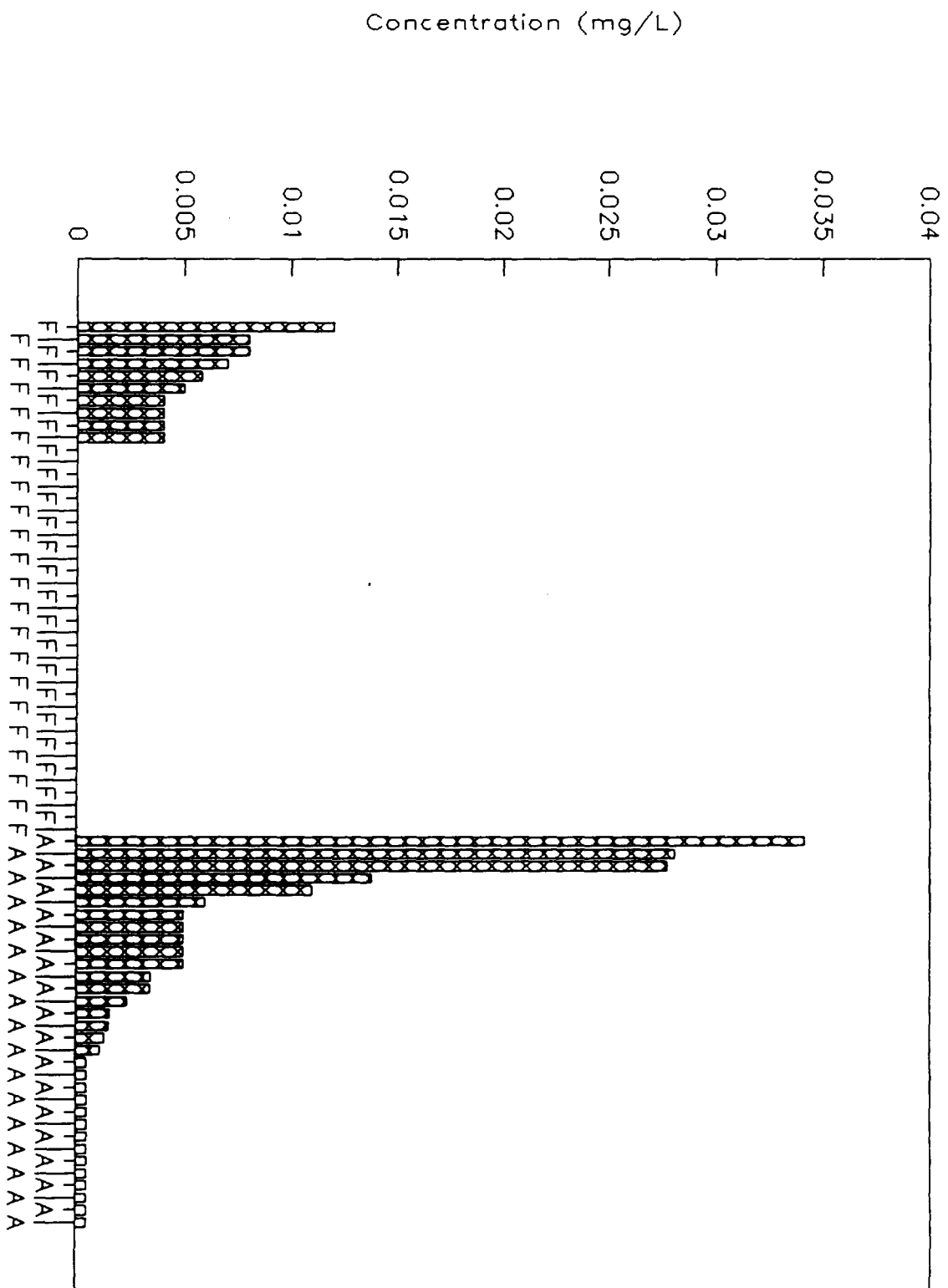
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Copper

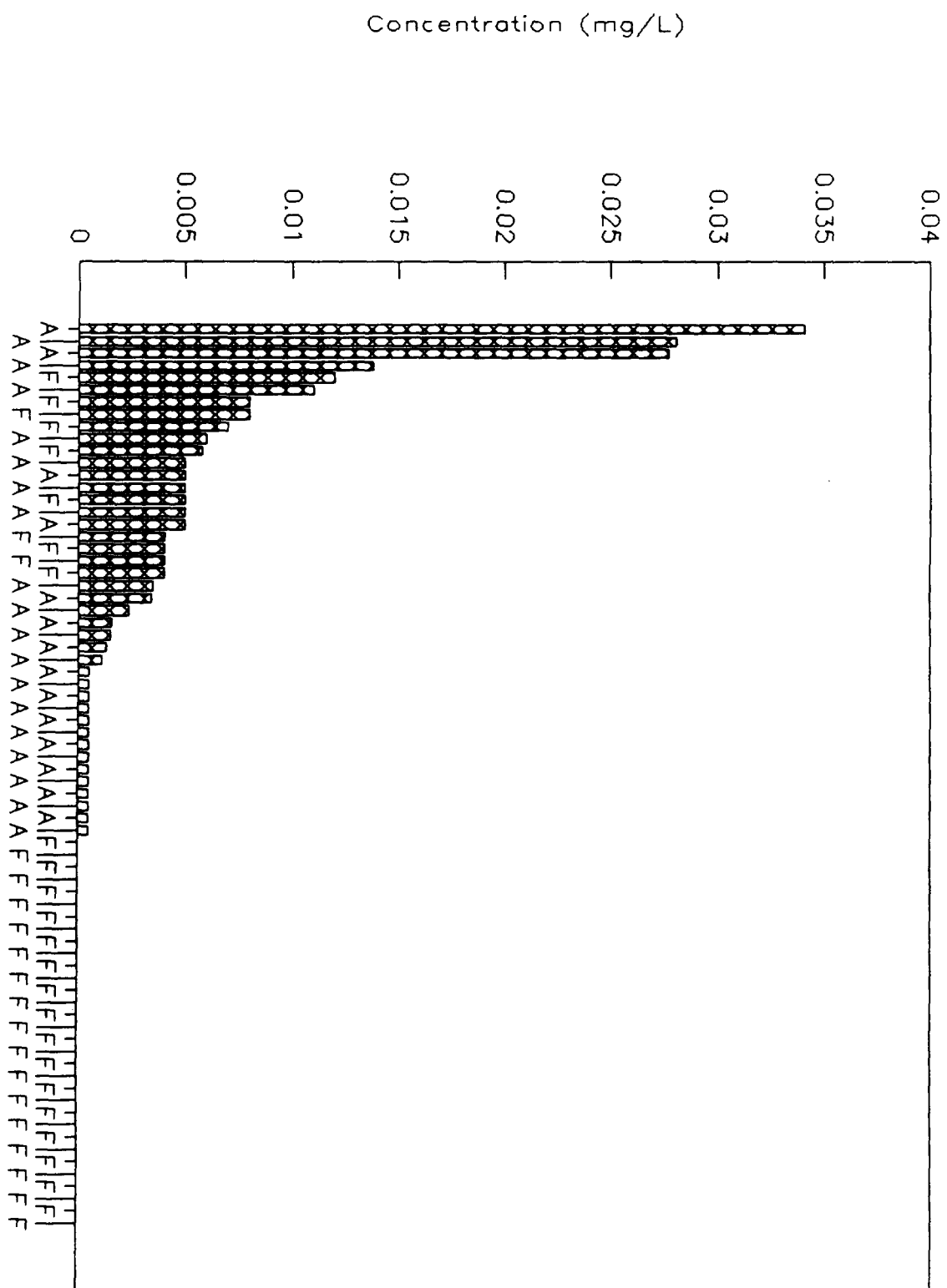


# Skinner Landfill GW Metals

Lead



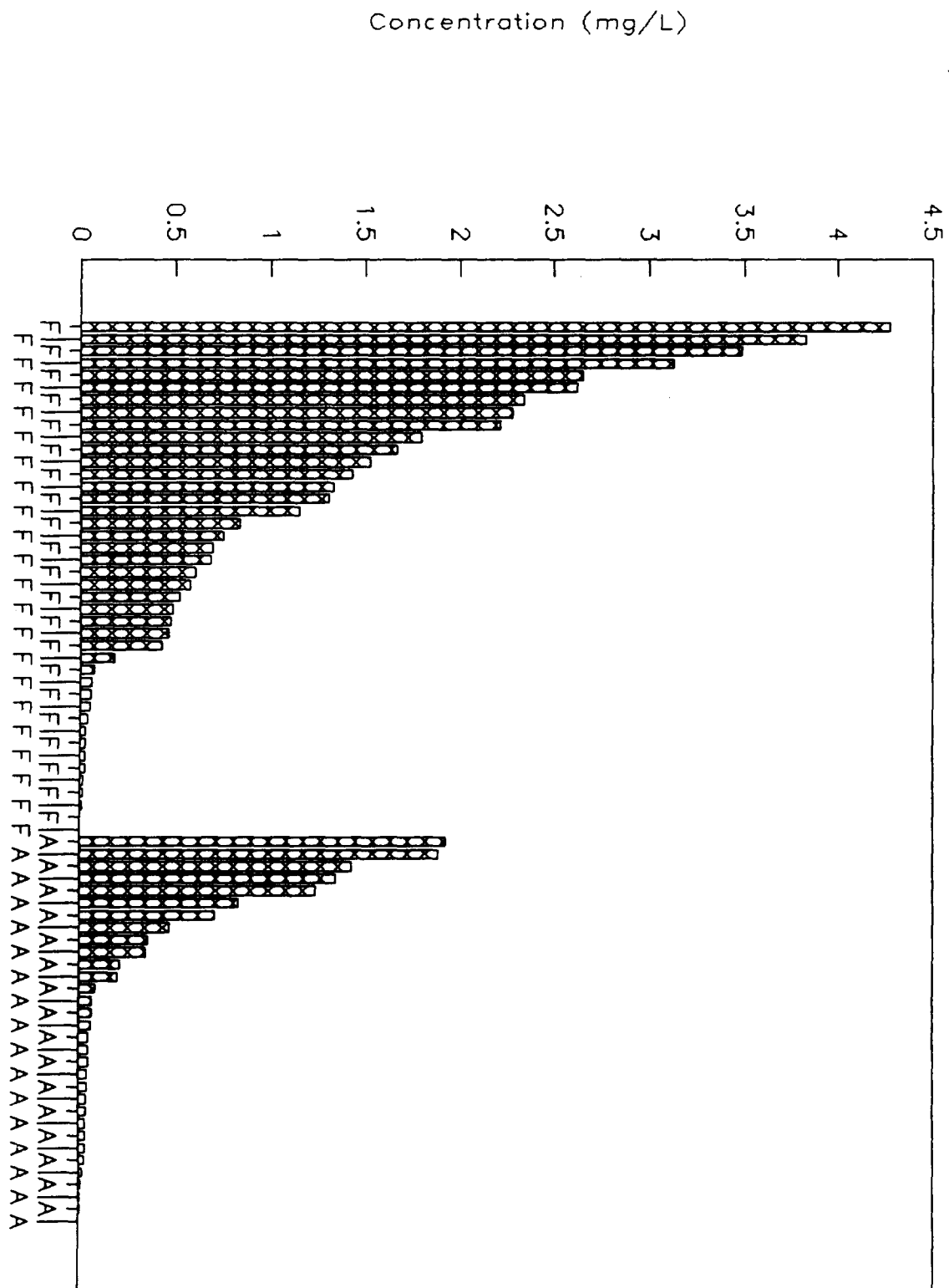
Lead





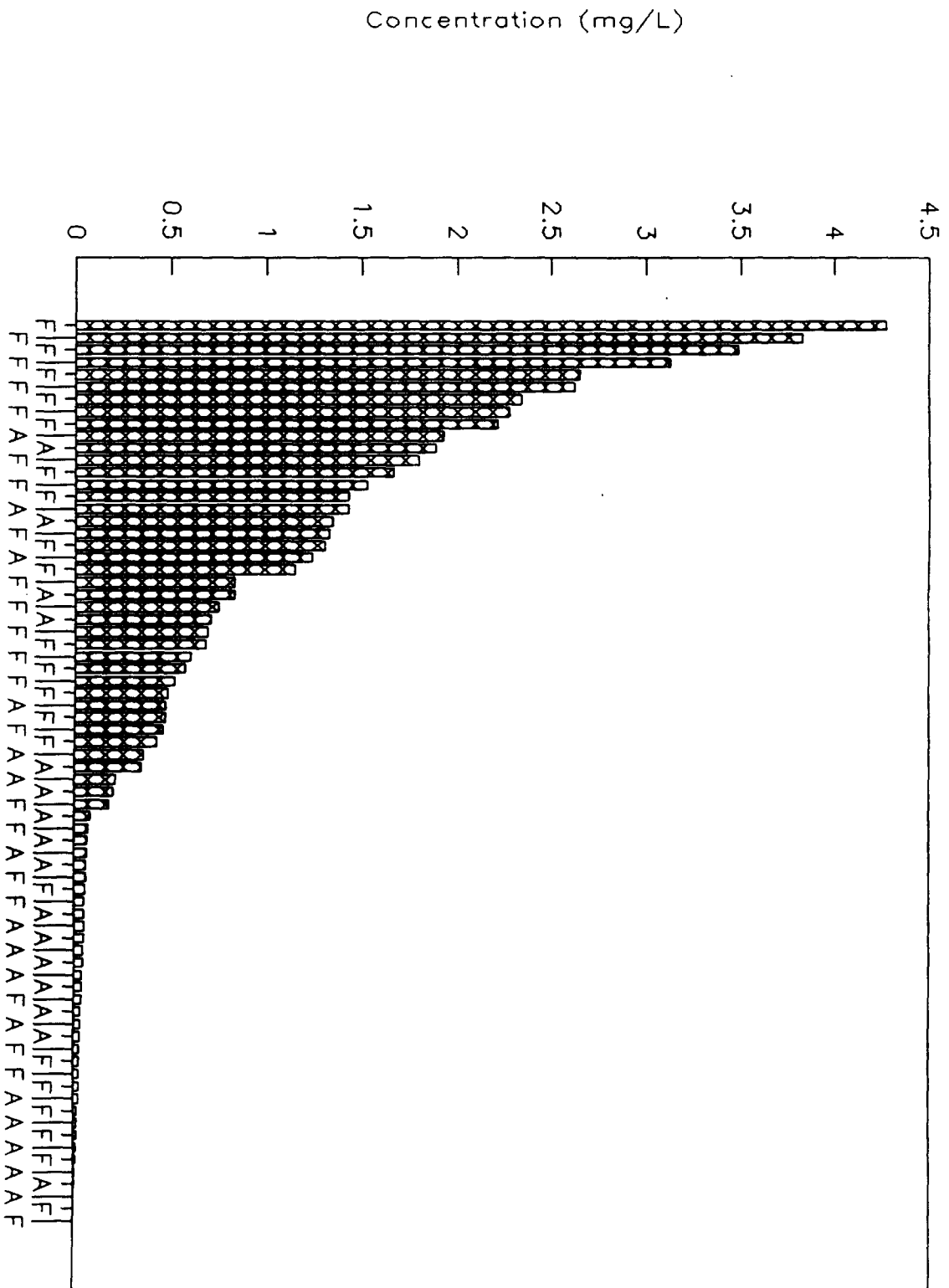
# Skinner Landfill GW Metals

Manganese

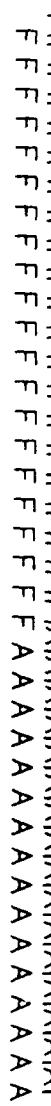


# Skinner Landfill GW Metals

Manganese

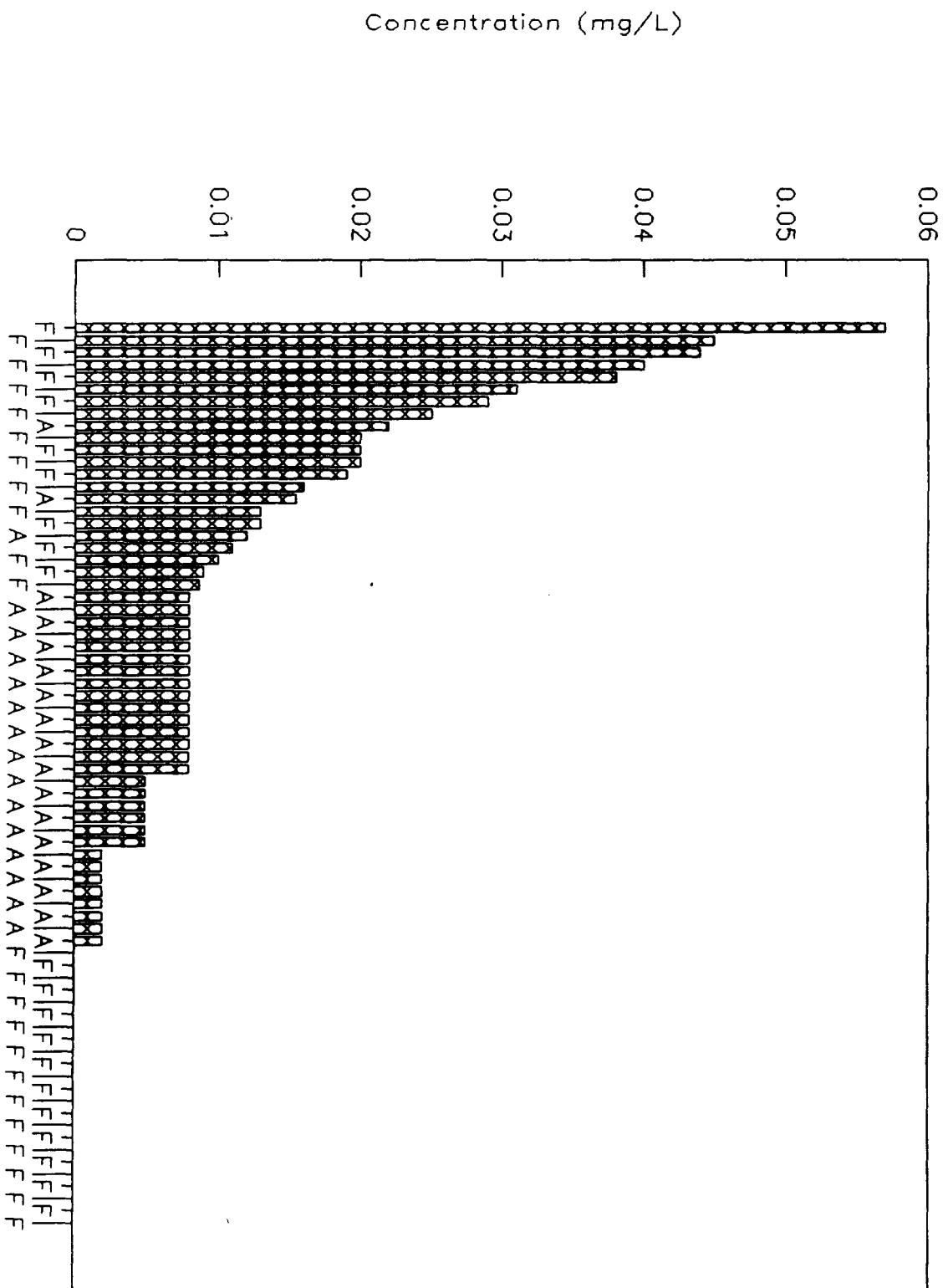


## Nickel



# Skinner Landfill GW Metals

Nickel

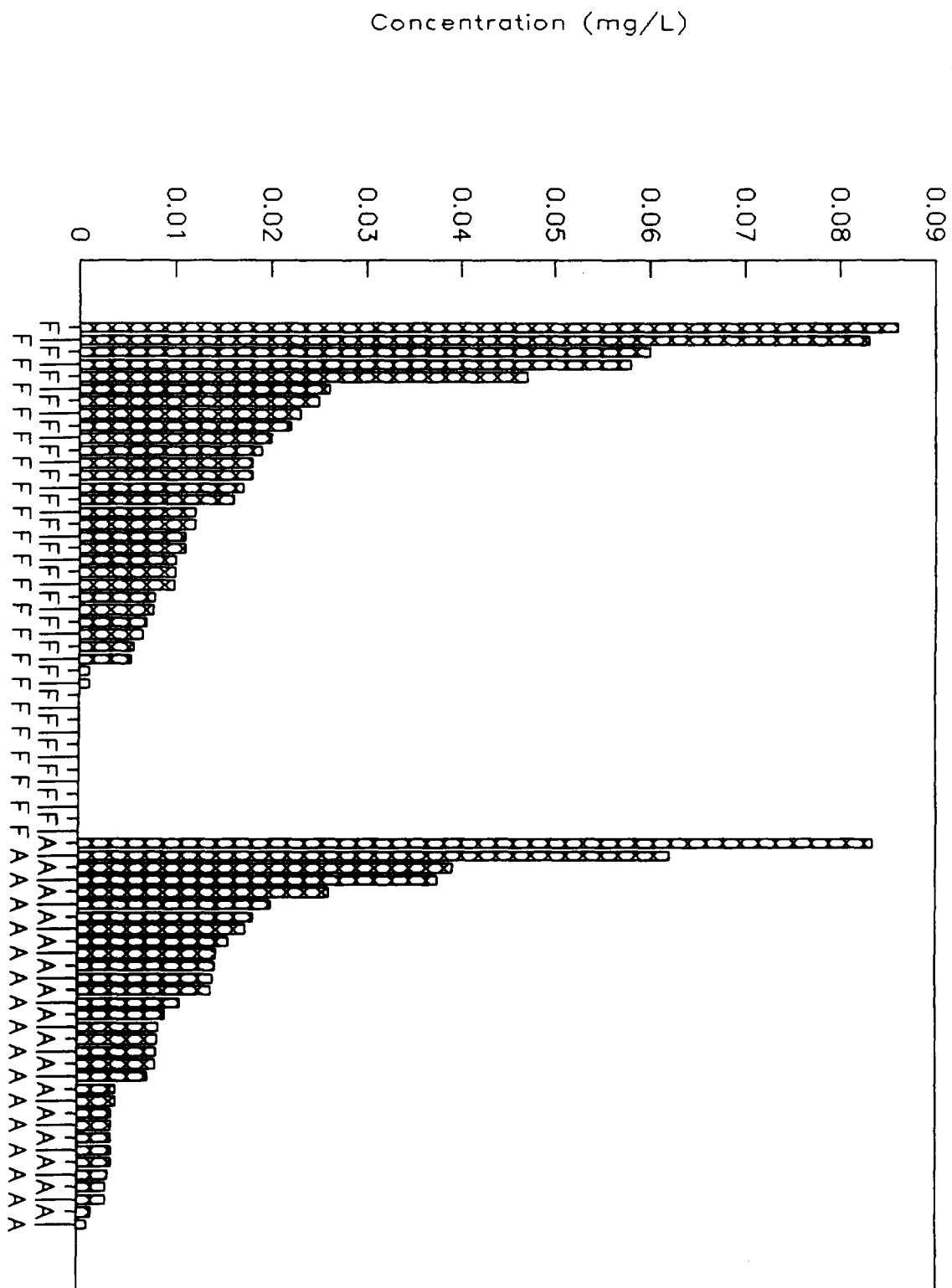


## Vanadium

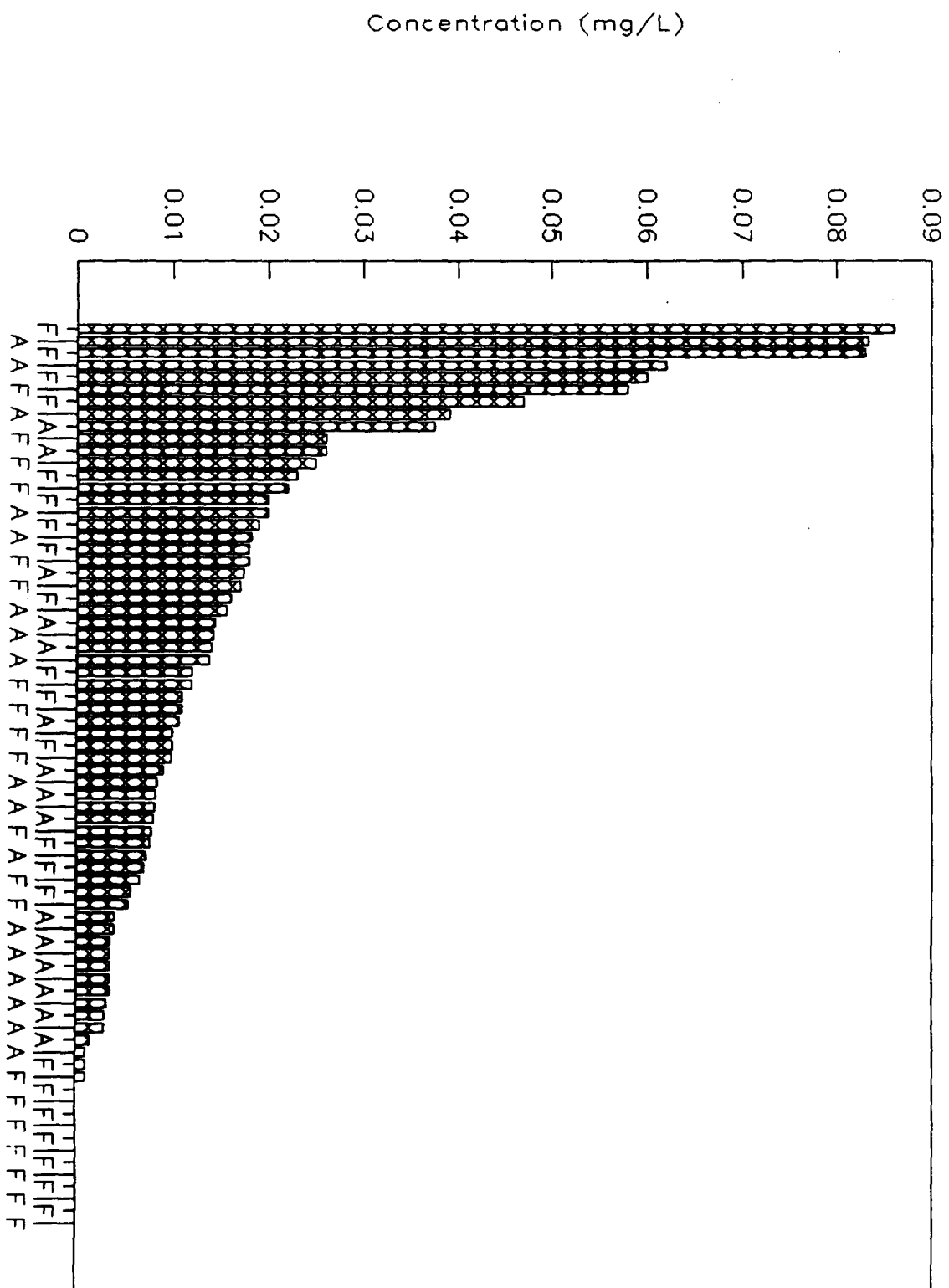


# Skinner Landfill GW Metals

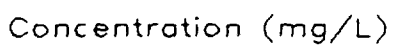
Zinc



## Zinc



Cyanide





FIGURES  
and  
TABLES

NOTE: All figures and tables are taken from the Laskin Poplar Oil Community Relations Plan (March, 1989), the Remedial Investigation (December, 1988), or the Feasibility Study (April, 1989).

FIGURE 1-1 Jefferson, Ohio

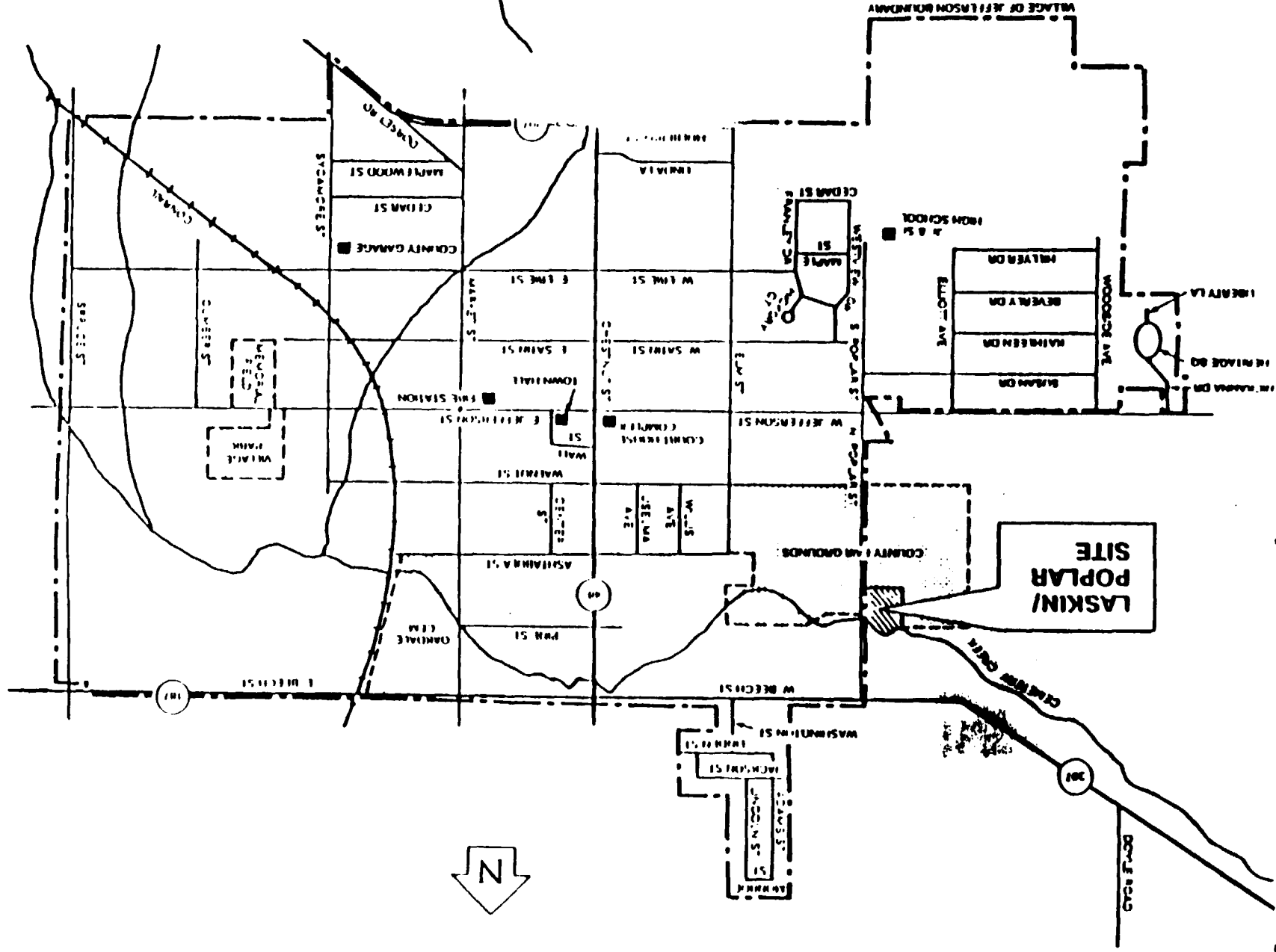


FIGURE 1-2 Iaskin Poplar Oil Site Map

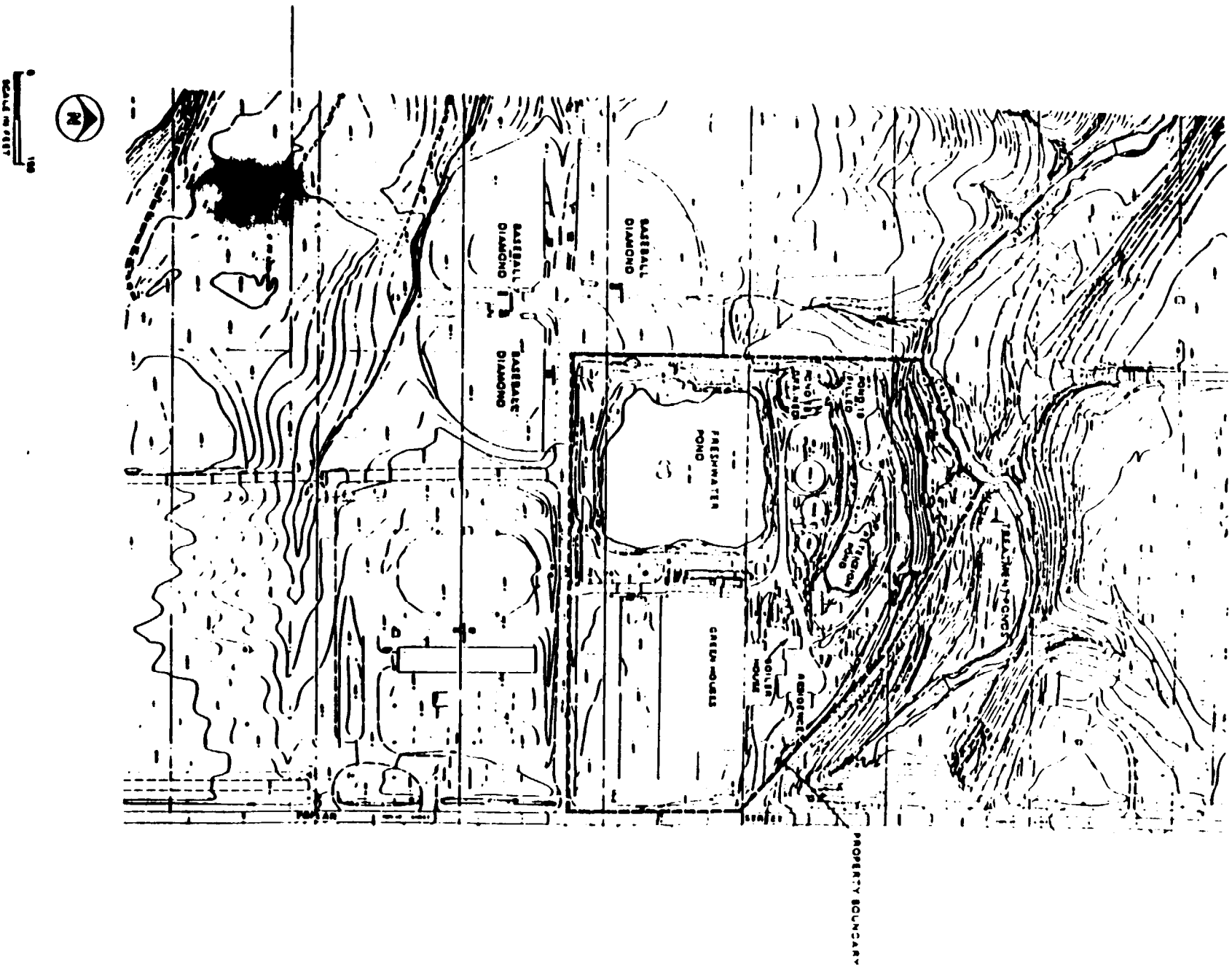


Figure 1-3 Sub Areas of the Laskin Poplar Oil Site

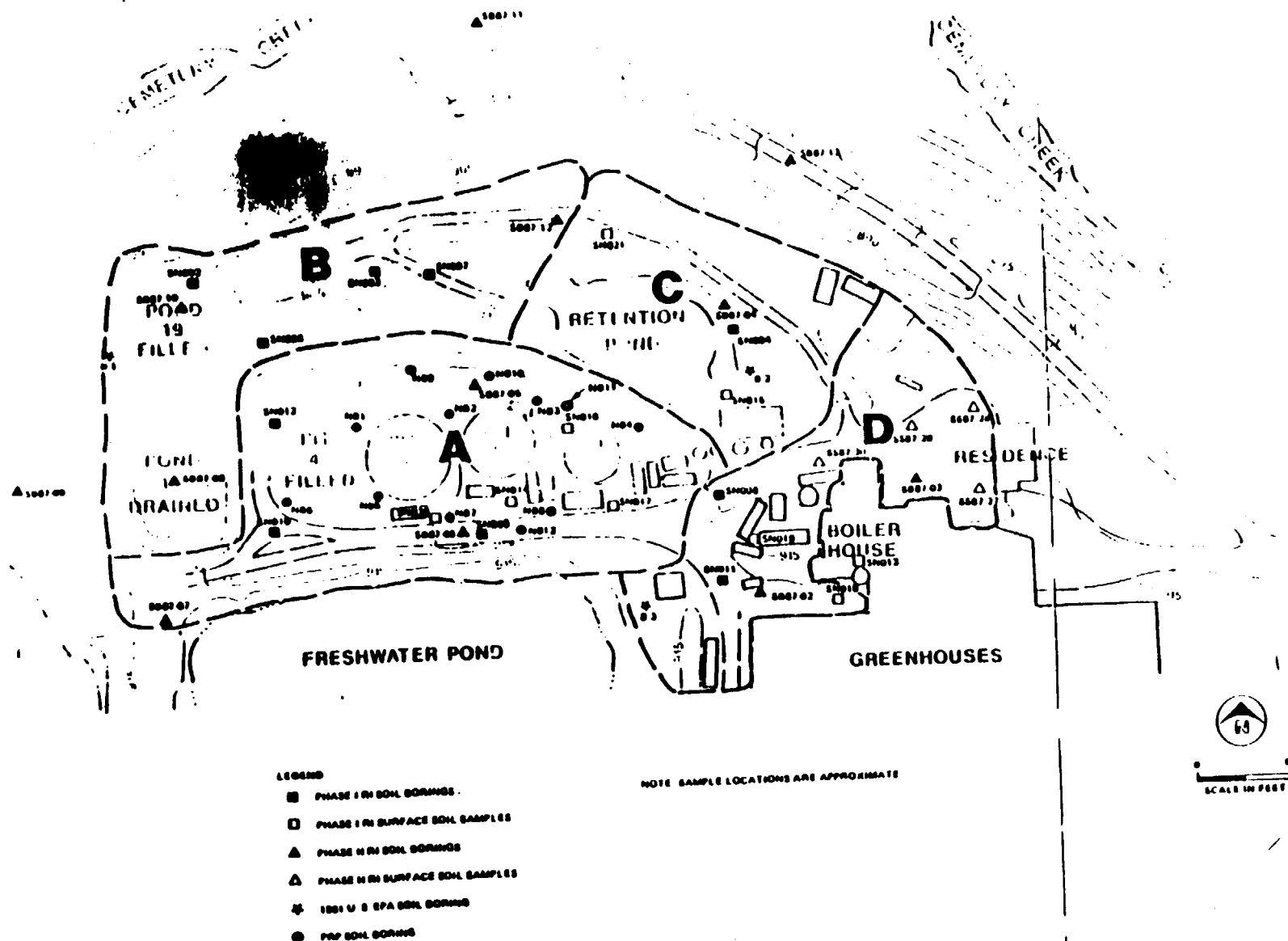
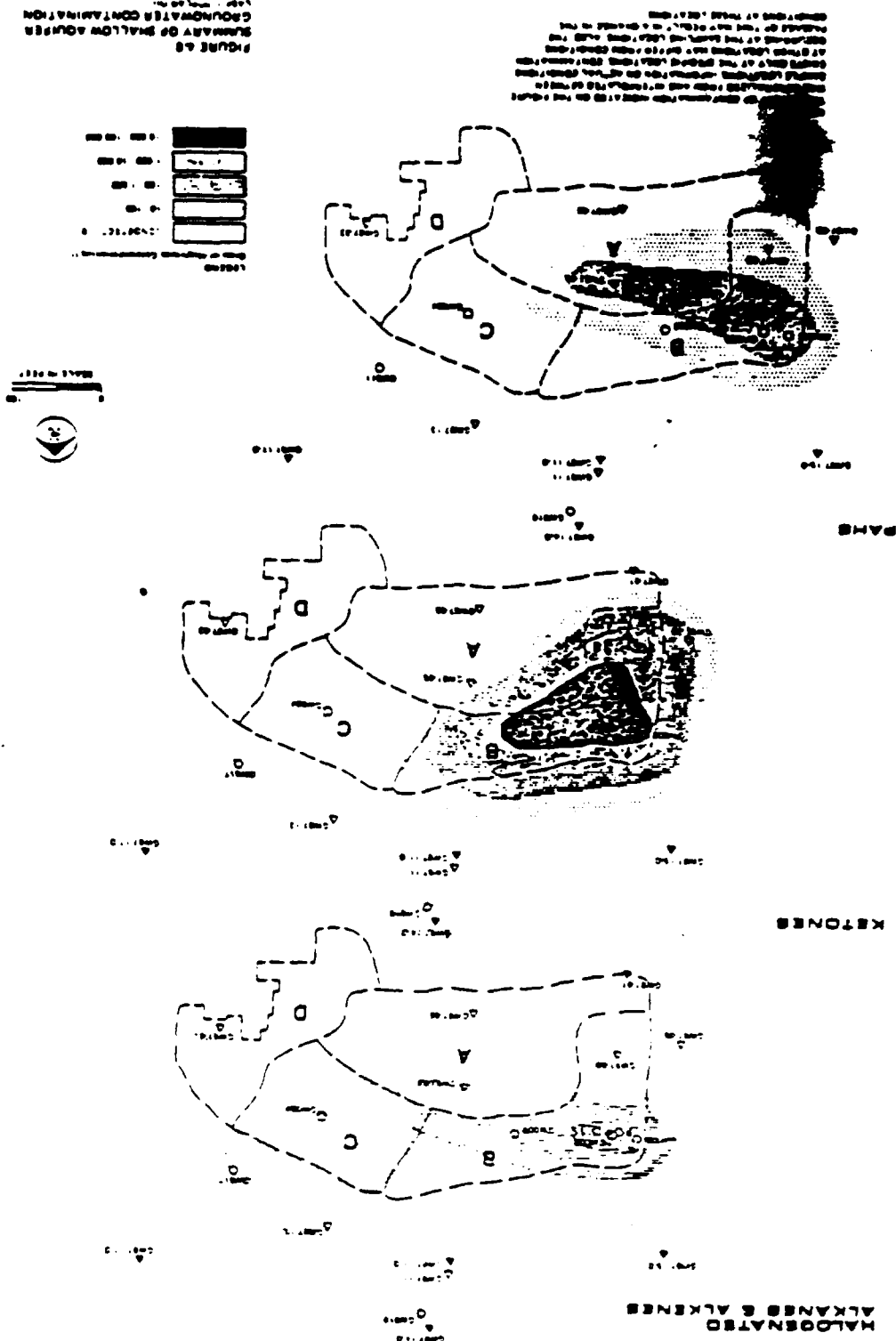
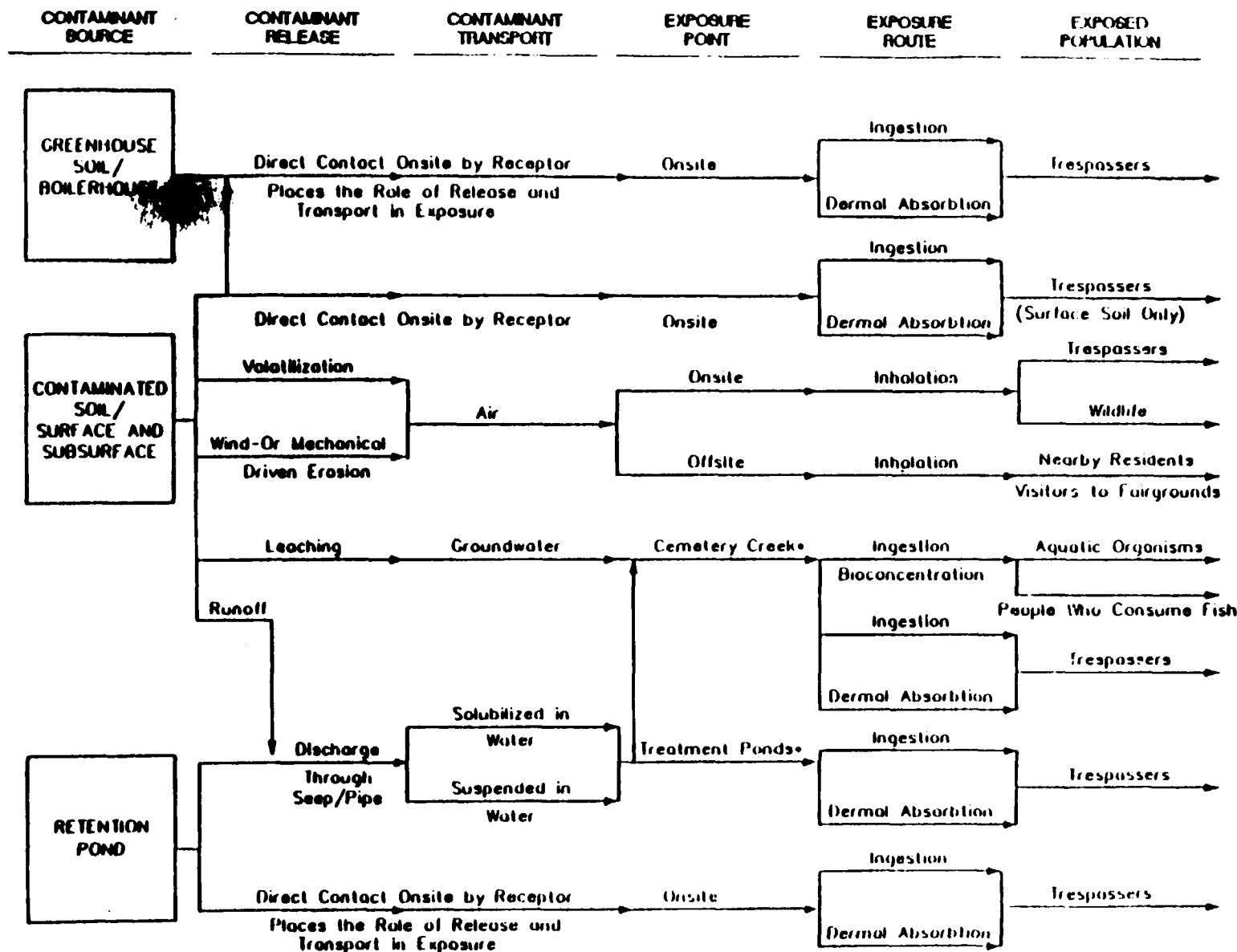


FIGURE 5-1 Summary of Shallow Aquifer Groundwater Contamination

FIGURE 5-2  
SUMMARY OF SHALLOW AQUIFER  
GROUNDWATER CONTAMINATION







\* INCLUDES BOTH SEDIMENT AND SURFACE WATER.

FIGURE 6-1 Exposure Pathways Analyzed Under Current Land Use Conditions

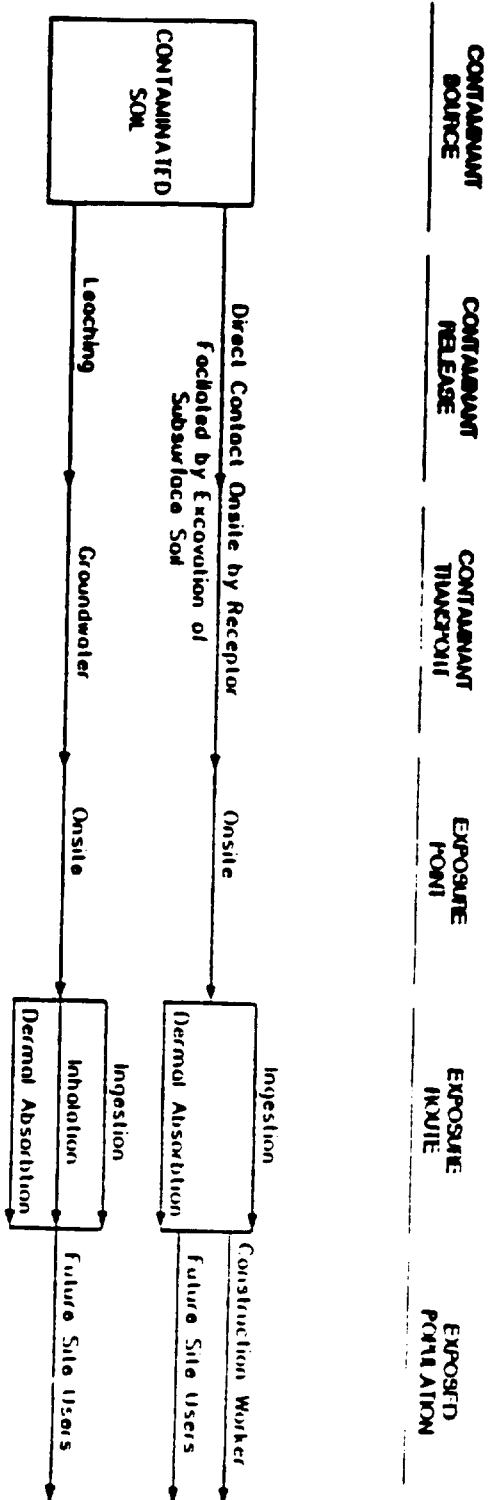


FIGURE 6-2 Exposure Pathways Analyzed Under Future Land Use Conditions



FIGURE 10-1 Approximate Location of Diversion Trench, Multi-layer Cap, and Diocin Vault - Alternative 3A

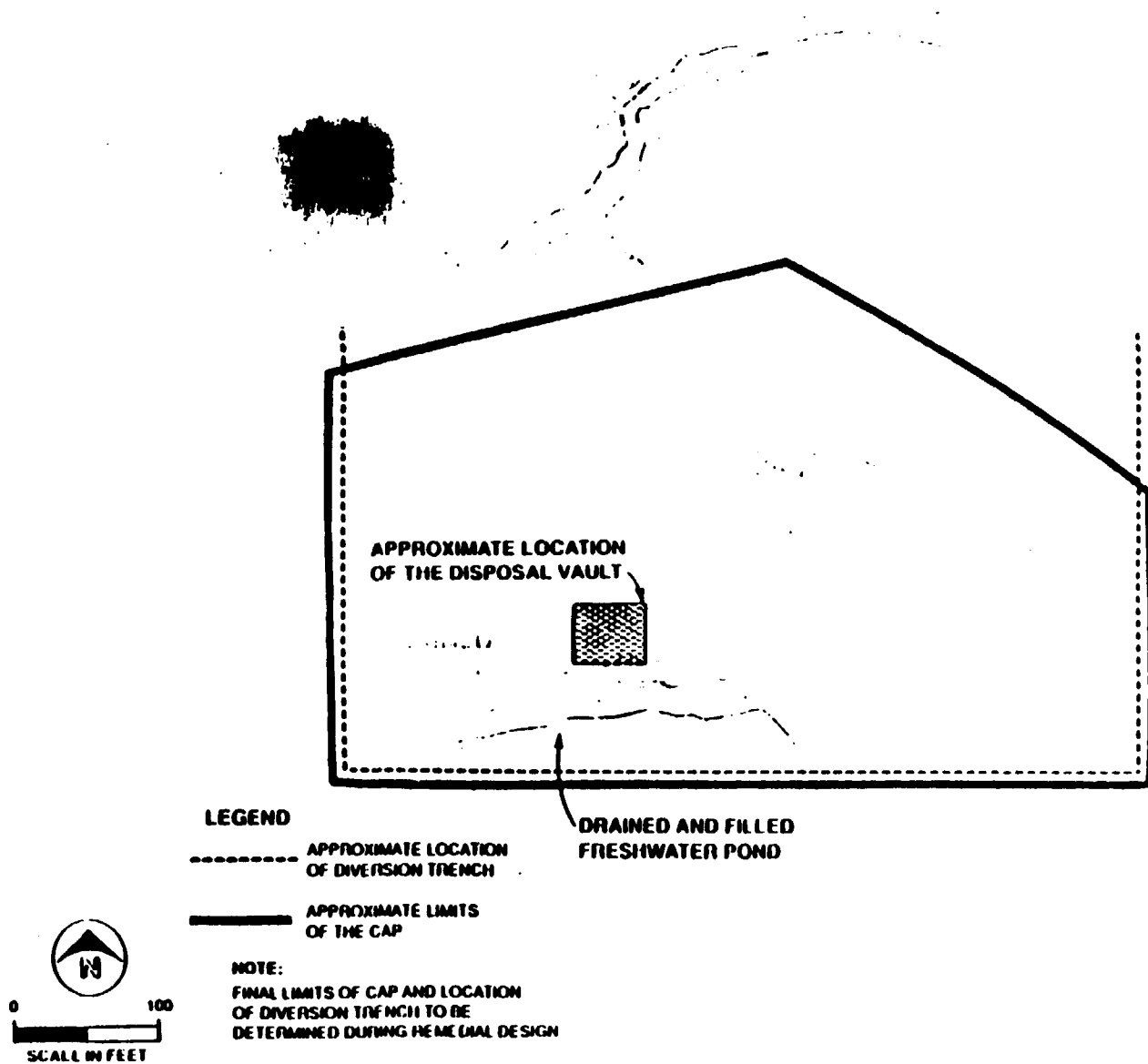


Table 5-1 Hazardous Substance List Compounds Detected at the Laskin Poplar Oil Site

(Page 1 of 3)

NSL COMPOUNDS DETECTED AT THE LASKIN POPLAR OIL SITE

Chemical	Surface Soil	Subsurface Soil	Sediment	Groundwater Wells	Surface Water
<b>POLY AND BICYCLIC AROMATIC HYDROCARBONS</b>					
Benzo(a)anthracene	X	X	X		
Benzo(a)pyrene	X	X	X		
Benzo(b)fluoranthene	X	X	X		
Benzo(k)fluoranthene	X	X	X		
Chrysene	X	X	X		
Dibenz(ah)anthracene	X	X	X		
Indeno(1,2,3-cd)pyrene	X	X	X		
Acenaphthene	X	X	X		
Acenaphthylene	X	X			
Anthracene	X	X	X		
Benzo(ghi)perylene	X	X	X		
Fluoranthene	X	X	X		
Fluorene	X	X	X		
2-Methylnaphthalene	X	X	X		
Naphthalene	X	X	X		
Phenanthrene	X	X	X		
Pyrene	X	X	X		
<b>P-ENOLIC COMPOUNDS</b>					
2-Chlorophenol					
4-Chlorophenyl Phenyl Ether					
2,4-Dichlorophenol		X			
2,4-Dimethylphenol	X	X			
2,4-Dinitrophenol		X			
4,5-Dinitro-2-methylphenol		X			
2-Methylphenol (o-Cresol)	X	X		X	
4-Methylphenol (p-Cresol)	X	X		X	
4-Nitrophenol		X			
N-Nitrosodiphenylamine	X	X			
Pentachlorophenol	X	X	X		
Phenol	X	X	X	X	
2,4,6-Trichlorophenol		X			
2,4,5-Trichlorophenol		X			
<b>PHTHLATES</b>					
Bis(2-ethylhexyl)phthalate	X	X	X	X	X
Butyl benzyl phthalate	X	X	X		
Diethyl phthalate		X		X	
Dimethylphthalate			X		
Di-n-butyl phthalate	X	X	X	X	X
Di-n-octyl phthalate	X	X			
<b>OTHER SEMI-VOLATILE COMPOUNDS</b>					
Benzoic Acid	X	X			
Bis(2-chloroethyl)ether				X	
Chlorobenzene		X			
Dibenzofuran	X	X	X		
1,2-Dichlorobenzene		X			
Isophorone	X	X		X	X
1,2,4-Trichlorobenzene	X	X			

Table S-1 (Page 2 of 3)

## MSL COMPOUNDS DETECTED AT THE LASKIN POPULAR OIL SITE

Chemical	Surface Soil	Subsurface Soil	Sediment	Groundwater Wells	Surface Water
POLYCHLORINATED BIPHENYLS					
Polychlorinated biphenyls	X	X	X		
PESTICIDES					
beta BHC(MCH)		X			
Chlorane	X		X		
4,4'-DDD	X				
4,4'-DDE	X	X	X		
4,4'-DDT	X	X		X	
delta BHC(MCH)	X		X		
Dieldrin	X		X		
Endosulfan I	X				
Endosulfan II	X				
Endosulfan Sulfate	X				
Endrin			X		
gamma BHC(Lindane)					
Heptachlor		X	X		
Heptachlor Epoxide		X	X		
BENZENE/TOLUENE/XYLENE					
Benzene		X	X	X	
Ethylbenzene	X	X	X	X	
Styrene	X	X			
Toluene	X	X		X	
Xylenes	X	X	X	X	X
HALOGENATED ALKENES AND ALKANES					
Carbon disulfide					X
Chloroform	X	X		X	
1,1-Dichloroethane	X	X		X	
1,2-Dichloroethane (EDC)	X	X		X	
1,2-Dichloroethene		X			
1,2-Dichloroethylene (trans)	X	X			
1,2-Dichloropropane		X			
Fluorotrichloromethane	X		X		
Methylene chloride	X	X			
Tetrachloroethene	X	X	X		
1,1,2-Trichloroethane	X				
1,1,1-Trichloroethane	X		X	X	
Trichloroethene	X	X		X	
Vinyl chloride		X		X	
KETONES					
Acetone	X	X	X	X	
2-Butanone	X	X	X		
2-Hexanone (isobutylmethylketone)					
4-Methyl-2-pentanone (MIBK)	X	X		X	X

Table 5-1 (Page 3 of 3)

## MS. COMPOUNDS DETECTED AT THE LASKIN POPLAR OIL SITE

Chemical	Surface Soil	Subsurface Soil	Sediment	Groundwater Wells	Surface Water
INORGANIC CHEMICALS					
Aluminum	X	X	X		X
Antimony	X	X	X	X	X
Arsenic	X	X	X	X	X
Barium	X	X	X	X	
Beryllium	X	X	X	X	X
Cadmium	X	X	X		X
Calcium	X		X	X	
Chromium	X	X	X		
Cobalt	X	X	X		X
Copper	X	X	X		X
Cyanide	X	X	X		X
Iron	X	X	X		X
Lead	X	X	X		X
Magnesium	X	X	X	X	X
Manganese	X	X	X		X
Mercury	X	X		X	
Nickel	X	X	X		
Potassium		X			X
Selenium	X				X
Silver	X	X	X		X
Sodium	X	X	X	X	X
Thallium	X	X	X		X
Vanadium	X	X	X	X	X
Zinc	X	X	X		

Table 5-2 Summary of Chemicals Detected at the Laskin Poplar Oil Site  
Presented by Functional Grouping

DETECTED CHEMICALS	CHEMICAL GROUPINGS	VOLATILITY	MOBILITY	FISH BIOACCUMULATION	CARCINOGEN?
2-METHYLNAPHTHALENE	PAH	MODERATE	SLIGHT	HIGH	
3,4-BENZOFLOCRANTHENE	PAH				
ACENAPHTHENE	PAH	LOW	SLIGHT	MODERATE	
ACENAPHTHYLENE	PAH	HIGH	SLIGHT	MODERATE	
ANTHRACENE	PAH	HIGH	SLIGHT	HIGH	
BENZO(A)ANTHRACENE	PAH	LOW	IMMOBILE	HIGH	YES
BENZO(A)PYRENE	PAH	LOW	IMMOBILE	HIGH	YES
BENZO(B)FLUORANTHENE	PAH	MODERATE	IMMOBILE	HIGH	YES
BENZO(GH)PERYLENE	PAH	NON	IMMOBILE	HIGH	
BENZO(K)FLUORANTHENE	PAH	MODERATE	IMMOBILE	HIGH	YES
CHRYSENE	PAH	LOW	IMMOBILE	HIGH	YES
DIBENZO(A,H)ANTHRACENE	PAH	NON	IMMOBILE	HIGH	YES
FLUORANTHENE	PAH	LOW	IMMOBILE	HIGH	
FLUCRENE	PAH	MODERATE	SLIGHT	HIGH	
INDENO(1,2,3-CD)PYRENE	PAH	NON	IMMOBILE	HIGH	YES
NAPHTHALENE	PAH	MODERATE	LOW	MODERATE	
PHENANTHRENE	PAH	MODERATE	SLIGHT	HIGH	
PYRENE	PAH	LOW	IMMOBILE	HIGH	
2,4,5-TRICHLOROPHENOL	PHENOLIC	MODERATE	HIGH	MODERATE	
2,4,6-TRICHLOROPHENOL	PHENOLIC	LOW	SLIGHT	MODERATE	YES
2,6-DICHLOROPHENOL	PHENOLIC	LOW	MODERATE	LOW	
2,4-DIMETHYLPHENOL	PHENOLIC	LOW	HIGH	MODERATE	
2,6-DINITROPHENOL	PHENOLIC	NON	VERY HIGH	NO DATA	
2-CHLOROPHENOL	PHENOLIC	MODERATE	HIGH	LOW	
2-METHYLPHENOL	PHENOLIC	LOW	VERY HIGH	NONE	
4,6-DINITRO-2-METHYLPHENOL	PHENOLIC	MODERATE	MODERATE	MODERATE	
4-CHLORO-3-METHYLPHENOL	PHENOLIC				
4-METHYLPHENOL	PHENOLIC	NON	VERY HIGH	NONE	
4-NITROPHENOL	PHENOLIC				
PENTACHLOROPHENOL	PHENOLIC	LOW	IMMOBILE	HIGH	
PHENOL	PHENOLIC	LOW	VERY HIGH	NONE	
BIS(2-ETHYLHEXYL)PHTHALATE	PHTHALATE	NON	IMMOBILE	MODERATE	YES
BUTYL BENZYL PHTHALATE	PHTHALATE	LOW	SLIGHT	HIGH	
DI-N-BUTYL PHTHALATE	PHTHALATE	NON	IMMOBILE	HIGH	
DI-N-OCTYL PHTHALATE	PHTHALATE	MODERATE	IMMOBILE	HIGH	
DIETHYLPHTHALATE	PHTHALATE				
DIMETHYLPHTHALATE	PHTHALATE	LOW	VERY HIGH	LOW	
1,2,4-TRICHLOROBENZENE	OTHER SEMIVOLATILE	HIGH	SLIGHT	HIGH	
1,2-DICHLOROBENZENE	OTHER SEMIVOLATILE	HIGH	LOW	MODERATE	
1,3-DICHLOROBENZENE	OTHER SEMIVOLATILE				
3-NITROANILINE	OTHER SEMIVOLATILE				
4-CHLOROPHENYL PHENYL ETHER	OTHER SEMIVOLATILE	MODERATE	SLIGHT	HIGH	
BENZOIC ACID	OTHER SEMIVOLATILE	NON	HIGH	LOW	
BENZYL ALCOHOL	OTHER SEMIVOLATILE				
CHLOROBENZENE	OTHER SEMIVOLATILE	HIGH	MODERATE	LOW	
DIBENZOFURAN	OTHER SEMIVOLATILE	LOW	SLIGHT	HIGH	
ISOPHORONE	OTHER SEMIVOLATILE	LOW	HIGH	LOW	
N-NITROSDIPHENYL	OTHER SEMIVOLATILE	MODERATE	LOW	MODERATE	YES
AROCLO-1221	PCB	HIGH	IMMOBILE	HIGH	YES
AROCLO-1242	PCB	HIGH	IMMOBILE	HIGH	YES
AROCLO-1248	PCB	HIGH	IMMOBILE	HIGH	YES
AROCLO-1254	PCB	HIGH	IMMOBILE	HIGH	YES
AROCLO-1260	PCB	HIGH	IMMOBILE	HIGH	YES
2,3,7,8-TCDD EQUIVALENTS	PCDD/PCDF				
4,4-DDD	PESTICIDE	LOW	IMMOBILE	HIGH	YES
4,4-DDD	PESTICIDE	MODERATE	IMMOBILE	HIGH	YES
4,4-DDT	PESTICIDE	MODERATE	IMMOBILE	HIGH	YES

DETECTED CHEMICALS	CHEMICAL GROUPINGS	VOLATILITY	MOBILITY	FISH BIOACCUMULATION	CARCINOGEN?
ALDRIN	PESTICIDE				
ALPHA CHLORDANE	PESTICIDE	HIGH	SLIGHT	HIGH	YES
BETA BHC	PESTICIDE	LOW	SLIGHT	MODERATE	YES
CHLORDANE	PESTICIDE	HIGH	SLIGHT	HIGH	YES
DELTA BHC	PESTICIDE	LOW	SLIGHT	MODERATE	
DIELDRIN	PESTICIDE	LOW	LOW	HIGH	YES
ENDOSULFAM I	PESTICIDE	MODERATE	VERY HIGH	MODERATE	
ENDOSULFAM II	PESTICIDE	MODERATE	VERY HIGH	MODERATE	
ENDOSULFAM SULFATE	PESTICIDE	HIGH	SLIGHT	HIGH	
ENDRIN	PESTICIDE	LOW	SLIGHT	HIGH	
GAMMA BHC	PESTICIDE	LOW	LOW	MODERATE	YES
GAMMA CHLORDANE	PESTICIDE	HIGH	SLIGHT	HIGH	YES
HEPTACHLOR	PESTICIDE	HIGH	SLIGHT	HIGH	YES
HEPTACHLOR EPOXIDE	PESTICIDE	MODERATE	MODERATE	HIGH	YES
BENZENE	BTX	HIGH	HIGH	LOW	YES
ETHYLBENZENE	BTX	HIGH	LOW	LOW	
O-XYLENE	BTX	HIGH	MODERATE	MODERATE	
STYRENE	BTX	HIGH	LOW	LOW	
TOLUENE	BTX	HIGH	MODERATE	LOW	
XYLENE	BTX	HIGH	MODERATE	MODERATE	
1,1,1-TRICHLOROETHANE	HALOG. ALKENE/ALKANE	HIGH	MODERATE	LOW	
1,1,2-TRICHLOROETHANE	HALOG. ALKENE/ALKANE	HIGH	HIGH	LOW	YES
1,1-DICHLOROETHANE	HALOG. ALKENE/ALKANE	MODERATE	VERY HIGH	NONE	YES
1,2-DICHLOROETHANE	HALOG. ALKENE/ALKANE	MODERATE	VERY HIGH	NONE	YES
1,2-DICHLOROETHENE	HALOG. ALKENE/ALKANE	HIGH	HIGH	NONE	
1,2-DICHLOROPROPANE	HALOG. ALKENE/ALKANE	HIGH	HIGH	NONE	
CARBON DISULFIDE	HALOG. ALKENE/ALKANE	HIGH	HIGH	LOW	
CHLOROFORM	HALOG. ALKENE/ALKANE	HIGH	VERY HIGH	NONE	YES
FLUOROTRICHLOROMETHANE	HALOG. ALKENE/ALKANE				
METHYLENE CHLORIDE	HALOG. ALKENE/ALKANE	HIGH	VERY HIGH	NONE	YES
TETRACHLOROETHENE	HALOG. ALKENE/ALKANE	HIGH	MODERATE	LOW	
TRANS-1,2-DICHLOROETHYLENE	HALOG. ALKENE/ALKANE	HIGH	HIGH	NONE	
TRICHLOROETHENE	HALOG. ALKENE/ALKANE	HIGH	HIGH	LOW	YES
VINYL CHLORIDE	HALOG. ALKENE/ALKANE	HIGH	HIGH	NONE	YES
2-BUTANONE	KETONE	MODERATE	VERY HIGH	NO DATA	YES
2-HEXANONE	KETONE	LOW	VERY HIGH	LOW	
4-METHYL-2-PENTANONE	KETONE	MODERATE	VERY HIGH	NONE	
ACETONE	KETONE	MODERATE	VERY HIGH	NONE	
ANTIMONY	ANTIMONY		V HIGH	NONE	
ARSENIC	ARSENIC		HIGH	NONE	
BARIUM	BARIUM		LOW	NONE	
BERYLLIUM	BERYLLIUM		LOW	LOW	
CADMIUM	CADMIUM		MODERATE	MODERATE	
CHROMIUM	CHROMIUM				
COBALT	COBALT		V HIGH	NONE	
COPPER	COPPER		HIGH	NONE	
CYANIDE	CYANIDE		V HIGH	NONE	
LEAD	LEAD		MODERATE	LOW	
MANGANESE	MANGANESE		HIGH	NONE	
MERCURY	MERCURY		MODERATE	NONE	
NICKEL	NICKEL		HIGH	NONE	
SELENIUM	SELENIUM		HIGH	NONE	
SILVER	SILVER		V HIGH	NONE	
THALLIUM	THALLIUM		V HIGH	NONE	
TIN	TIN		HIGH	NONE	
VANADIUM	VANADIUM		V HIGH	NONE	
ZINC	ZINC		MODERATE	MODERATE	

Table 6-1 Potential Contaminants of Concern at the Laskin Poplar Oil Site

Acetone	Gamma HCH (Lindane)
Antimony	Heptachlor
Arsenic	Heptachlor Epoxide
Barium	Indeno(1,2,3-cd)pyrene
Benzene	Isophorone
Benzo(a)anthracene	Lead
Benzo(a)pyrene	Manganese
Benzo(b)fluoranthene	Mercury
Benzo(k)fluoranthene	Methylphenol (Cresol)
Beryllium	Methylene chloride
Beta HCH	4-Methyl-2-pentanone (MIBK)
Bis(2-chloroethyl)ether	Nickel
Bis(2-ethylhexyl)phthalate	N-Nitrosodiphenylamine
2-Butanone (MEK)	PCB
Cadmium	Pentachlorophenol
Carbon disulfide	Phenol
Chlordane	Selenium
Chlorobenzene	Silver
Chloroform	Styrene
Chromium	2,3,7,8-TCDD (Dioxin)
Chrysene	Tetrachloroethene
Copper	Thallium
DOT	Toluene
Dibenzo(a,h)anthracene	1,2,4-Trichlorobenzene
Dibutyl phthalate	1,1,1-Trichloroethane
1,1-Dichloroethane	1,1,2-Trichloroethane
1,2-Dichloroethane (EDC)	Trichloroethene
2,4-Dichlorophenol	Trichlorofluoromethane
Dieldrin	2,4,5-Trichlorophenol
Diethyl phthalate	2,4,6-Trichlorophenol
2,4-Dinitrophenol	Vanadium
Endosulfan	Vinyl chloride
Ethylbenzene	Xylenes
Cyanide	Zinc

(a) Potential chemicals of concern indentified based on availability of cancer potency factor, reference dose, drinking water criteria or standard, or environmental criteria.

Table 6-2 Risk Characterization Summary - Laskin Poplar Oil Site

Risk Characterization Summary Laskin Poplar Oil Site (Page 1 of 2)				
Media and Exposure Route	Exposure Point	Potentially Exposed Population	Risk Characterization Summary	Chemicals of Concern
Soil Ingestion	Onsite	Trespassers	Excess lifetime cancer risk estimate: 7 x 10 <sup>-6</sup> to 3 x 10 <sup>-7</sup> 4 x 10 <sup>-7</sup> to 3 x 10 <sup>-8</sup> Hazard index exceeded	PAHs, PCBs Dioxin Lead
Soil, Ash, Residue Ingestion	Seller house	Trespassers	Excess lifetime cancer risk estimate: 7 x 10 <sup>-11</sup> to 3 x 10 <sup>-5</sup> 1 x 10 <sup>-6</sup> to 3 x 10 <sup>-4</sup> Hazard index exceeded	PAHs, PCBs Dioxin Lead, Cadmium, Mercury, metals in ash
Soil Ingestion	Greenhouse	Trespassers	Excess lifetime cancer risk estimate: 4 x 10 <sup>-7</sup> to 3 x 10 <sup>-7</sup> Hazard index exceeded	PAHs, Dieldrin Lead, Endosulfan
Soil Ingestion	Onsite	Future Site Occupants	Excess lifetime cancer risk estimate: 3 x 10 <sup>-3</sup> to 7 x 10 <sup>-5</sup> 4 x 10 <sup>-7</sup> to 3 x 10 <sup>-8</sup> Hazard index exceeded	PAHs, PCBs Dioxin Lead, Cadmium, Chromium, Antimony
Sediment Ingestion	Onsite	Trespassers	Excess lifetime cancer risk estimate: 3 x 10 <sup>-5</sup> to 6 x 10 <sup>-6</sup> Hazard index exceeded	PAHs, PCBs Lead
Surface water Ingestion	Onsite	Trespassers	Excess lifetime cancer risk estimate: NO carcinogens detected Hazard index not exceeded	None None
Surface water Ingestion	Cometary Creek	Offsite Residents	Excess lifetime cancer risk estimate: 4 x 10 <sup>-6</sup> Hazard index not exceeded	Vinyl chloride None
Surface water Contact	Cometary Creek	Aquatic Organisms	NO State or Federal Criteria exceeded based on predicted creek concentrations	Risk estimates are based on modeling of groundwater discharge to creek. Contaminants not detected in creek. Risk estimates are based on modeling of groundwater discharge to creek. Contaminants not detected in creek.



(Page 2 of 2)  
Risk Characterization Summary  
Lashin Poplar Hill Site

Media and Exposure Route	Exposure Point	Potentially Exposed Population	Risk Characterization Summary	Chemicals of Concern	Comment
Airborne Contaminant Inhalation	Onsite	Trespassers	Excess lifetime cancer risk estimate: $4 \times 10^{-8}$ to $6 \times 10^{-9}$  Hazard Index Not Exceeded	Vinyl chloride, Arsenic	Risks based on worst case volatilization and resuspension assumptions
Airborne Contaminant Inhalation	Site Boundary	Residents	Excess lifetime cancer risk estimate: $3 \times 10^{-8}$ to $1 \times 10^{-6}$  Hazard Index Not Exceeded	Vinyl chloride, Arsenic	Risks based on worst case volatilization and resuspension assumptions and exposure settings.
Airborne Contaminant Inhalation	Offsite	Residents, Visitors to Fairgrounds and Ballpark	Excess lifetime cancer risk estimate: $4 \times 10^{-11}$ to $1 \times 10^{-8}$  Hazard Index Not Exceeded	Vinyl chloride	Risks based on worst case volatilization and resuspension assumptions
Groundwater Ingestion	Onsite	Future Residents	Drinking water standards and criteria exceeded   Excess lifetime cancer risk estimate: $2 \times 10^{-2}$ to $1 \times 10^{-6}$  Hazard Index Exceeded	Arsenic, Beryllium, DDT, Nickel, 1,2-Dichloroethane, Benzene, Xylenes, Trichloroethane   Vinyl chloride, Benzene, 1,2-Dichloroethane, DDT, Trichloroethane  Acetone, Manganese, Phenol, Methylphenol, 4-methyl-2-pentanone.	Requires site development for exposures to occur. Existing alternative water supply reduces potential of exposure. Evaluation based on concentrations detected in monitoring wells, not predicted concentrations.
Sediment Ingestion	Cemetery Creek	Offsite Residents			No contaminants attributed to the site detected in the sediment, however, a potentially complete mechanism for contaminant release exists.

Table 6-3 Summary of Groundwater Concentrations that Exceed Drinking Water Standards at the Laskin Poplar Oil Site

Well Location	Chemical	Concentration ug/l	Criteria (a) Exceeded	Criteria Level
GUC02-87	Arsenic	48	WCC-RISK	0.0025
	DDT	0.11	WCC-RISK	0.0012
	Nickel	124	WCC-TOX	15.4
GUC04-87	1,2-Dichloroethane	19	MCLG	0
			MCL	5
			WCC-RISK	0.94
GUC08-87	1,2-Dichloroethane	200	MCLG	0
			MCL	5
			WCC-RISK	0.94
	Benzene	100	MCLG	0
			MCL	5
			WCC-RISK	0.57
	Xylenes	650	OWNA	1.8
			MCLG-PRCP	440
	Vinyl chloride	350	MCLG	0
			MCL	2
			WCC-RISK	2
GUC09-87	Arsenic	35	WCC-RISK	0.0025
GUC11-87	1,2-Dichloroethane	4	MCLG	0
			WCC-RISK	0.94
GUC7-03	Beryllium	2	WCC-RISK	0.0039
GUC7-05	1,2-Dichloroethane	4	MCLG	0
			WCC-RISK	0.94
GUC7-06	Arsenic	2	WCC-RISK	0.0025
GUC7-07		2	WCC-RISK	0.0025
GUC7-11		2	WCC-RISK	0.0025
		22	WCC-TOX	15.4

Table 6-3 (Page 2 of 2)  
SUMMARY OF GROUNDWATER CONCENTRATIONS THAT EXCEED DRINKING WATER STANDARDS  
AT THE LASKIN POPLAR OIL SITE

Well Location	Chemical	Concentration ug/l	Criteria (a) Exceeded	Criteria Level
GW-27-13	Arsenic	17	WQC-RISK	0.0025
	1,2-Dichloroethane	3	MCLG	0
			WQC-RISK	0.94
	Trichloroethane	4	MCLG	0
			WQC-RISK	2.8
	Nickel	20	WQC-TOX	15.4

(a) Criteria:

- MCL - Maximum Contaminant Level
- MCLG - Maximum Contaminant Level Goal
- WQC-RISK - Water Quality Criteria for human health  
(drinking water only) at 10<sup>-6</sup> cancer risk level
- WQC-TOX - Water Quality Criteria for human health--  
toxicity protection for noncarcinogens
- DWHA - Drinking Water Health Advisories--Lifetime

Table 6-4 Summary of Hazardous Substances List Chemical Concentrations and Associated Human Risks in Groundwater at the Laskin Poplar Oil Site

Well Location	Chemical	Concentration ug/l	Excess Lifetime Cancer Risk	(b)	
				(a) Infant: Hazard Index	(b) Adult: Hazard Index
GW002-87	Arsenic	48	$2 \times 10^{-3}$	-	-
	DOT	0.11	$1 \times 10^{-6}$	-	-
	Acetone	24000	-	24	7
	Manganese	8320	-	4	1
	4-Methyl-2-pentanone	2500	-	6	2
	Methyl phenol	1970	-	4	1
	Total (with Arsenic)	-	$2 \times 10^{-3}$	NA	NA
	Total (without Arsenic)	-	$1 \times 10^{-6}$	40	11
GW004-87	1,2-Dichloroethane	19	$5 \times 10^{-5}$	-	-
	Total	-	$5 \times 10^{-5}$	-	-
GW003-87	Vinyl chloride	350	$2 \times 10^{-2}$	-	-
	1,2-Dichloroethane	200	$5 \times 10^{-4}$	-	-
	Benzene	100	$8 \times 10^{-5}$	-	-
	Acetone	10000	-	10	3
	Methylphenol	2340	-	5	1
	Phenol	720	-	2	0.5
	Total	-	$2 \times 10^{-2}$	17	5
GW009-87	Arsenic	35	$2 \times 10^{-3}$	-	-
	Methylene chloride	3000	$6 \times 10^{-4}$	-	-
	Acetone	55000	-	55	15
	Methylphenol	2150	-	4	1
	Total (with Arsenic)	-	$2 \times 10^{-3}$	NA	NA
	Total (without Arsenic)	-	$7 \times 10^{-4}$	61	17
GW011-87	1,2-Dichloroethane	4	$1 \times 10^{-5}$	-	-
	Total	-	$1 \times 10^{-5}$	-	-
GW87-05	1,2-Dichloroethane	4	$1 \times 10^{-5}$	-	-
	Total	-	$1 \times 10^{-5}$	-	-
GW87-08	Acetone	6500	-	7	2
	Total	-	-	7	2
GW27-13	Chloroethane	13	$2 \times 10^{-5}$	-	-
	1,2-Dichloroethane	3	$8 \times 10^{-6}$	-	-
	Trichloroethane	4	$1 \times 10^{-6}$	-	-
	Total	-	$3 \times 10^{-5}$	<1	<0.2

(a) Monitoring wells with no carcinogens not listed.

(b) Chemical with hazard indexes less than one not listed. However, the total hazard index listed represents all the chemicals with a hazard index.

Table 6-5 Summary of On-site Soil and Sediment Ingestion Risks by Media and Exposure Setting at the Laskin Poplar Oil Site

Exposure Setting	Risk Summary	Major Contributors to Risk
SURFACE SOIL-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration (a)	$7 \times 10^{-6}$	PAHs, PCBs
Average Concentration (b)	$3 \times 10^{-7}$	PAHs, PCBs
PCDD/PCDF Risk	$6 \times 10^{-7}$ to $3 \times 10^{-8}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Calculated Hazard Index (Child)	3	Lead
Average Calculated Hazard Index (Child)	0.2	
BOILER HOUSE-BOILER ASH-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration (with Arsenic)	$8 \times 10^{-7}$	Arsenic
Highest Detected Concentration (without Arsenic)	$7 \times 10^{-11}$	Bis(2-ethylhexyl)phthalate
Average Concentration (with Arsenic)	NC (c)	
Average Concentration (without Arsenic)	NC	
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Calculated Hazard Index (Child)	14	Lead, Cadmium
Average Calculated Hazard Index (Child)	NC	
BOILER HOUSE-BOILER RESIDUE-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration (with Arsenic)	$1 \times 10^{-6}$	Arsenic
Highest Detected Concentration (without Arsenic)	$1 \times 10^{-10}$	Bis(2-ethylhexyl)phthalate
Average Concentration (with Arsenic)	NC	
Average Concentration (without Arsenic)	NC	
Highest PCDD/PCDF Risk	$1 \times 10^{-5}$ to $1 \times 10^{-6}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Calculated Hazard Index (Child)	23	Lead, Mercury
Average Calculated Hazard Index (Child)	NC	
BOILER HOUSE-BOILER HOUSE SOIL-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration (with Arsenic)	$3 \times 10^{-5}$	PAHs, PCBs, Arsenic
Highest Detected Concentration (without Arsenic)	$2 \times 10^{-5}$	PAHs, PCBs
Average Concentration (with Arsenic)	NC	
Average Concentration (without Arsenic)	NC	
Highest PCDD/PCDF Risk	$6 \times 10^{-5}$ to $5 \times 10^{-6}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Calculated Hazard Index (Child)	433	Lead
Average Calculated Hazard Index (Child)	NC	
BOILER HOUSE-STAG-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$2 \times 10^{-6}$	Arsenic
Average Concentration	NC	
Highest PCDD/PCDF Risk	$2 \times 10^{-6}$ to $1 \times 10^{-6}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Calculated Hazard Index (Child)	138	Lead, Mercury
Average Calculated Hazard Index (Child)	NC	

Table 6-5 (Page 2 of 3)

Exposure Setting	Risk Summary	Major Contributors to Risk
GREENHOUSE SOIL-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$4 \times 10^{-7}$	PAHs
Average Concentration	$3 \times 10^{-7}$	PAHs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (Child)	1	Lead, Endosulfan
Average Hazard Index (Child)	0.7	Lead
SEEP AND RETENTION POND SEDIMENT-TRESPASS		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$3 \times 10^{-5}$	PAHs, PCBs
Average Concentration	$6 \times 10^{-6}$	PAHs, PCBs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (Child)	3	Lead
Average Hazard Index (Child)	1	Lead
SURFACE AND SUBSURFACE SOIL-CONSTRUCTION (d)		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$3 \times 10^{-6}$	PAHs, PCBs
Average Concentration	$2 \times 10^{-7}$	PAHs, PCBs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index	200	Lead
Average Hazard Index	2	---
SURFACE SOIL (0-2 FEET)-RESIDENTIAL (d)		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$2 \times 10^{-3}$	PAHs, PCBs
Average Concentration	$7 \times 10^{-5}$	PAHs, PCBs
PCDD/PCDF Risk	$5 \times 10^{-5}$ to $2 \times 10^{-6}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (Child-1 g/day)	10000	Lead, Cadmium, Chromium, Antimony, Barium, Copper, Manganese, Nickel, Zinc
Maximum Hazard Index (Child-0.1 g/day)	1000	Lead
Maximum Hazard Index (Adult)	200	Lead
Average Hazard Index (Child-1 g/day)	98	Lead, Manganese
Average Hazard Index (Child-0.1 g/day)	10	Lead
Average Hazard Index (Adult)	2	Lead
SURFACE AND SUBSURFACE SOIL (0-14 FEET)-RESIDENTIAL (d)		
EXCESS LIFETIME CANCER RISK		
Highest Detected Concentration	$2 \times 10^{-3}$	PAHs, PCBs
Average Concentration	$1 \times 10^{-4}$	PAHs, PCBs
PCDD/PCDF Risk	$5 \times 10^{-5}$ to $2 \times 10^{-6}$	2,3,7,8-TCDD Equivalent
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (Child-1 g/day)	10000	Lead, Cadmium, Chromium, Antimony, Barium, Copper, Nickel, Zinc
Maximum Hazard Index (Child-0.1 g/day)	1000	Lead
Maximum Hazard Index (Adult)	200	Lead
Average Hazard Index (Child-1 g/day)	100	Lead
Average Hazard Index (Child-0.1 g/day)	10	Lead
Average Hazard Index (Adult)	2	Lead

Table 6-5 (Page 3 of 3)

=====

See Appendix B for calculations and assumptions.

- (a) Maximum calculated risks are based on the highest detected concentration in soil or sediment.
- (b) Average calculated risks are based on an area weighted average concentration for soil or sediment.
- (c) NC indicates that no area weighted concentrations were calculated. Averages were not calculated because:
  - 1) Data was insufficient to calculate an average.
  - 2) Risks are calculated for each soil or sediment sample analyzed.
- (d) Did not include data from Area 3, pits and tanks.

Table 6-6 Summary of Surface Water Ingestion and Ambient Air Inhalation Risks by Media and Exposure Setting at the Laskin Poplar Oil Site

MAJOR CONTRIBUTORS TO RISK		
SURFACE WATER:		
FRESH WATER AND RETENTION PONDS - INGESTION BY TRESPASSER		
EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (a)	NA	No carcinogens detected
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (a)		
Freshwater Pond	0.0001	---
Retention Pond	0.0007	---
CEMETERY CREEK - INGESTION BY TRESPASSER		
EXCESS LIFETIME CANCER RISK		
Maximum Hazard Index (b)	$3 \times 10^{-8}$ to $2 \times 10^{-12}$	Vinyl chloride
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (b)	0.005	---
AMBIENT AIR:		
VOLATILIZED CONTAMINANTS - INHALED BY TRESPASSER		
EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (c)	$4 \times 10^{-8}$	Vinyl chloride, Methylene chloride
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (c)	<0.00001	---
RESUSPENDED MATERIAL - INHALED BY TRESPASSER		
EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (with Arsenic) (c)	$6 \times 10^{-9}$	Arsenic, PAHs
Maximum Calculated Risk (without Arsenic)	$1 \times 10^{-9}$	PAHs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (c)	0.004	---
VOLATILIZED CONTAMINANTS - INHALED BY SITE BOUNDARY RESIDENTS		
EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (c)	$1 \times 10^{-6}$	Vinyl chloride, Methylene chloride
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (c)	<0.00001	---
RESUSPENDED MATERIAL - INHALED BY SITE BOUNDARY RESIDENTS		
EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (with Arsenic) (c)	$2 \times 10^{-7}$	Arsenic, PAHs
Maximum Calculated Risk (without Arsenic)	$5 \times 10^{-8}$	PAHs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (c)	0.012	---



Table 6-6 (Page 2 of 2)  
SUMMARY OF SURFACE WATER INGESTION AND AMBIENT AIR INHALATION RISKS  
BY MEDIA AND EXPOSURE SETTING  
LASKIN POPLAR OIL SITE

===== MAJOR CONTRIBUTORS TO RISK =====

VOLATILIZED CONTAMINANTS - INHALED BY OFFSITE RESIDENT

EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (d)	1 x 10 <sup>-6</sup>	Vinyl chloride, Methylene chloride
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index	0.000000002	---

RESUSPENDED MATERIAL - INHALED BY OFFSITE RESIDENT

EXCESS LIFETIME CANCER RISK		
Maximum Calculated Risk (with Arsenic) (c)	2.4 x 10 <sup>-10</sup>	Arsenic, PAHs
Maximum Calculated Risk (without Arsenic)	4 x 10 <sup>-11</sup>	PAHs
RATIO OF DAILY INTAKE TO REFERENCE DOSE		
Maximum Hazard Index (c)	0.0002	---

- (a) Risks are based on the highest detected concentration in onsite surface water.  
 (b) Risks are based on the highest predicted concentrations in Cemetery Creek.  
 (c) Risks are based on the predicted average onsite air concentrations.  
 (d) Risks are based on the predicted average offsite air concentrations.

Table 6-7 Carcinogenic Potency Factors for Chemicals Detected at the Laskin Poplar Oil Site

CHEMICAL	INGESTION			INHALATION		
	(a)	(b)	(c)	(a)	(b)	(c)
	U.S. EPA Carcinogen Classification	Carcinogenic Potency Factor (kg-day/mg)	Source	U.S. EPA Carcinogen Classification	Carcinogenic Potency Factor (kg-day/mg)	Source
Arsenic	A	1.75	NEA/NEED(6-1-88)	A	15	IRIS(3-1-88)
Benzene	A	0.029	IRIS(3-1-88)	A	0.029	SPHEM(10-1-86)
Benzo(a)pyrene	B2	11.5	SPHEM(10-1-86)	B2	0.4	NEA/NEED(6-1-88)
Beryllium	-	-	-	B1	4.86	SPHEM(10-1-86)
Bis(2-chloroethyl)ether	B2	1.1	IRIS(3-1-88)	B2	1.1	IRIS(3-1-87)
Bis(2-ethylhexyl)phthalate	B2	0.016	IRIS(9-7-88)	-	-	-
Cadmium	-	-	-	B1	6.1	IRIS(3-1-88)
Chlordane	B2	1.3	IRIS(3-1-88)	B2	1.3	IRIS(3-1-88)
Chloroform	B2	0.061	NEA/NEED(6-1-88)	-	-	-
Chromium (hexavalent)	-	-	-	A	4.1	IRIS(3-1-88)
DDE	B2	0.36	IRIS(8-22-88)	B2	0.36	IRIS(8-22-88)
1,2-Dichloroethane (EDC)	B2	0.091	IRIS(3-1-88)	B2	0.091	IRIS(3-1-88)
Dieldrin	B2	16	IRIS(9-7-88)	B2	16	IRIS(9-7-88)
Heptachlor	B2	4.5	IRIS(3-1-88)	B2	4.5	IRIS(3-1-88)
Heptachlor Epoxide	B2	9.1	IRIS(3-1-88)	B2	9.1	IRIS(3-1-88)
beta HCH (BHC)	C	1.8	IRIS(3-1-88)	C	1.8	IRIS(3-1-88)
gamma HCH (Lindane)	B2/C	1.33	SPHEM(10-1-86)	B2	0.014	IRIS(5-21-87)
Methylene chloride	B2	0.0075	IRIS(5-21-87)	A	1.19	SPHEM(10-1-86)
Nickel	-	-	-	-	-	-
N Nitrosodiphenylamine	B2	0.0049	IRIS(3-1-88)	-	-	-
PCB	B2	7.7	NEA/NEED(6-1-88)	-	-	-
PAMS	B2/C	11.5	SPHEM(10-1-86)	B2/C	6.11	SPHEM(10-1-86)
2,3,7,8-TCDF (Dioxin)	B2	156000	SPHEM(10-1-86)	B2	-	-
1,2,3-Trichloroethane	B2	0.051	SPHEM(10-1-86)	B2	0.0033	NEA/NEED(6-1-88)
1,1,2-Trichloroethane	C	0.057	IRIS(3-1-88)	C	0.057	IRIS(3-1-88)
Trichloroethene	B2	0.011	IRIS(3-1-88)	B2	0.013	IRIS(3-1-88)
2,4,6-Trichlorophenol	B2	0.02	IRIS(3-1-88)	B2	0.02	IRIS(3-1-88)
Vinyl chloride	A	2.3	SPHEM(10-1-86)	A	0.295	SPHEM(10-1-86)

(a) U.S. EPA Carcinogen Classification (IRIS data base 2-10-1988)

A: Human carcinogen.

B1: Probable human carcinogen, limited human evidence.

B2: Probable human carcinogen, sufficient evidence in animals inadequate or no evidence in humans.

C: Possible human carcinogen.

(b) Sources: SPHEM - "Superfund Public Health Evaluation Manual," Table C-4, (U.S. EPA, 1986)

IRIS - U.S. EPA Integrated Risk Information System (U.S. EPA, 1988)

NEA/NEED - Quarterly update for NEA and NEED Chemicals (U.S. EPA, 1988)

Table 6-8 Reference Dose Factors for Chemicals Detected at the Laskin Poplar Oil Site

CHEMICAL	INGESTION		INHALATION	
	Reference Dose (RfD) mg/kg/day	Source	Reference Dose (RfD) mg/kg/day	Source
Acetone	0.1	IRIS(3-01-88)	3	SPHEM(10-1-86)
Antimony	0.0004	IRIS(3-01-88)	-	-
Barium	0.35	IRIS(3-01-88)	0.0001	HEA/NEED(6-1-88)
Beryllium	0.005	IRIS(3-01-88)	-	-
3-(2-ethylhexyl)phthalate	0.22	IRIS(3-01-88)	-	-
2-Butanone (MEK)	0.25	IRIS(3-01-88)	0.09	HEA/NEED(6-1-88)
Calcium	0.0005	HEA/NEED(6-1-88)	-	-
Carbon disulfide	0.1	IRIS(3-01-88)	-	-
Chlordane	0.0005	IRIS(3-01-88)	-	-
Chlorobenzene	0.027	SPHEM(10-1-86)	0.0057	HEA/NEED(6-1-88)
Chloroform	0.01	IRIS(3-01-88)	-	-
Chromium (hexavalent)	0.005	IRIS(3-01-88)	0.01	SPHEM(10-1-86)
Copper	0.037	SPHEM(10-1-86)	-	-
Free cyanide	0.02	IRIS(11-16-86)	-	-
DOT	0.0005	IRIS(3-01-88)	-	-
Diethyl phthalate	0.1	IRIS(1-31-86)	0.138	SPHEM(10-1-86)
1,1-Dichloroethane	0.12	SPHEM(10-1-86)	-	-
2,4-Dichlorophenol	0.003	IRIS(3-01-88)	-	-
Diethyl phthalate	0.9	IRIS(3-01-88)	-	-
2,6-Dinitrophenol	0.002	IRIS(3-01-88)	-	-
Endosulfan	0.0005	IRIS(3-01-88)	-	-
Ethylbenzene	0.1	IRIS(3-01-88)	-	-
Heptachlor	0.0005	IRIS(3-01-88)	-	-
Heptachlor Epoxide	0.00013	IRIS(3-01-88)	-	-
Isophorone	0.15	IRIS(6-30-88)	-	-
Lead	0.0014	SPHEM(10-1-86)	-	-
Gamma HCH (Lindane)	0.0003	IRIS(3-01-88)	-	-
Manganese	0.22	SPHEM(10-1-86)	0.0003	SPHEM(10-1-86)
Mercury (inorganic)	0.002	SPHEM(10-1-86)	0.000051	SPHEM(10-1-86)
Methylene chloride	0.36	IRIS(5-21-87)	-	-
4-Methyl-2-pentanol	0.05	IRIS(3-01-88)	-	-
Methylphenol	0.05	SPHEM(10-1-86)	0.1	SPHEM(10-1-86)
Nickel	0.02	IRIS(3-01-88)	-	-
Pentachlorophenol	0.03	IRIS(3-01-88)	-	-
Phenol	0.04	IRIS(3-01-88)	0.001	SPHEM(10-1-86)
Selenium	0.003	SPHEM(10-01-86)	-	-
Silver	0.003	IRIS(6-30-88)	-	-
Styrene	0.2	IRIS(6-30-88)	-	-
Tetrachloroethene	0.01	IRIS(3-01-86)	-	-
Thallium	0.0004	SPHEM(10-01-86)	-	-
Toluene	0.3	IRIS(3-01-88)	1.5	SPHEM(10-1-86)
1,2,4-Trichlorobenzene	0.02	IRIS(3-01-88)	0.003	HEA/NEED(6-1-88)
1,1,1-Trichloroethane	0.09	IRIS(3-01-88)	0.3	HEA/NEED(6-1-88)
1,1,2-Trichloroethane	0.2	IRIS(3-01-88)	-	-
Trichlorofluoromethane	0.3	IRIS(3-01-88)	0.2	HEA/NEED(6-1-88)
2,4,5-Trichlorophenol	0.1	IRIS(3-01-88)	-	-
Vanadium	0.02	IRIS(11-16-86)	-	-
Xylenes	2	IRIS(3-01-88)	0.4	SPHEM(10-1-86)
Zinc	0.21	SPHEM(10-1-86)	0.01	SPHEM(10-1-86)

(a) Sources: SPHEM - Superfund Public Health Evaluation Manual, Table C-6, (U.S. EPA, 1986)

IRIS - U.S. EPA Integrated Risk Information System (U.S. EPA, 1988b)

HEA/NEED - Quarterly update for HEA and NEED Chemicals (U.S. EPA, 1988d)

Table 6-9 General Uncertainty Factors in Risk Assessments

Uncertainty Factor	Effect of Uncertainty		
	May Over-estimate Risk	May Under-estimate Risk	May Over-estimate or Under-estimate Risk
The cancer potencies used are upper 95 percent confidence limits derived from the linearized multi-stage model. This is considered to be unlikely to underestimate the true risk.	X		
Risks are assumed to be additive. Risks may not be additive because of synergistic or antagonistic actions of other chemicals.			X
Cancer potencies and acceptable intake levels are primarily derived using laboratory animal studies and, when available, human epidemiological or clinical studies. Extrapolation of data from high to low doses, from one species to another, and from one exposure route to another may introduce uncertainty. In general, these tend to use conservative assumptions.			X
Not all carcinogenic potencies or acceptable intakes used represent the same degree of certainty. All are subject to change as new evidence becomes available.			X
Assumes absorption is equivalent across species. This is implicit in the derivation of the acceptable intake. Uncertainty factors used in assessment.			X

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Table 6-10

Uncertainty Factors Specific to the Laskin Poplar Oil Site  
Risk Assessment

Uncertainty Factor	Effect of Uncertainty		
	May Over-estimate Risk	May Under-estimate Risk	May Over-estimate or Under-estimate Risk
All of the daily intake of drinking water is from the groundwater source being evaluated.	X		
Not all chemicals found at the site have been assigned critical toxicity values. They are not included in the quantitative assessment.		X	
All intake of contaminants is assumed to come from the medium being evaluated. This does not take into account other contaminant sources such as diet, exposures occurring at locations other than the exposure point being evaluated, or other environmental media which may contribute to the intake of the chemical (i.e., relative source contribution is not accounted for).		X	
Sampling of environmental media may result in loss of contaminants present, especially VOCs.		X	
Exposures through dermal absorption are not quantified.		X	
The public health evaluation is based on Hazardous Substance List chemical and physical data. However, those chemicals represent a subset of the chemicals possible at the site.		X	
The standard assumptions regarding body weight, period exposed, life expectancy, population characteristics, and lifestyle may not be representative for any actual exposure situation.			X

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Uncertainty Factor	Effect of Uncertainty		
	May Over-estimate Risk	May Under-estimate Risk	May Over-estimate or Under-estimate Risk
This assessment is based on the present understanding of the site characteristics. Conditions at the site or understanding of the site may change over time.			X
The exposures evaluated assume that chemical concentration remains constant over the entire exposure period. Transfer, transformation, and transport processes may alter chemical concentration in a medium.			X
The amount of media intake is assumed to be constant and representative of the exposed population.			X
Assumptions regarding discharge and dilution of groundwater into Cemetery Creek are considered to be worst case.	X		
Trespass exposures are based on infrequent contact with contaminated material.			X
Residential exposures are based on a lifetime of exposure.	X		
Boiler house is assumed to be readily accessible to trespassers.	X		
Risks were evaluated across exposure pathways.			X

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# ARAR DOCUMENTATION

Page (2 of 3)

ARAR	ALTERNATIVE 1 NO ACTION	ALTERNATIVE 2	ALTERNATIVE 3A CAP, GROUNDWATER CONTROL, AND GROUNDWATER TREATMENT	ALTERNATIVE 3B SOIL COVER GROUNDWATER TREATMENT, AND GROUNDWATER TREATMENT	ALTERNATIVE 3A TREAT TO 3 SOIL, SOIL CAP, AND GROUNDWATER CONTROL	ALTERNATIVE 3B TREAT TO 3 SOIL, SOIL COVER AND GROUNDWATER TREATMENT	ALTERNATIVE 3A TREAT TO 3 SOIL, SOIL CAP, AND GROUNDWATER CONTROL	ALTERNATIVE 3B TREAT TO 3 SOIL, SOIL COVER AND GROUNDWATER TREATMENT	ALTERNATIVE 3 TREAT TO 3 SOIL
APPROVAL OF ALL WASTE MANAGEMENT PLANS NO CEM 30	---	---	WASTE TREATMENT UNIT WILL MEET ALL GROUNDWATER REQUIREMENTS	WASTE TREATMENT UNIT AND ALL DROPPERS WILL MEET ALL GROUNDWATER REQUIREMENTS	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 3A
GROUNDWATER MONITORING FOR WASTE MANAGEMENT NO CEM 30	---	---	WASTE TREATMENT UNIT WILL MEET ALL GROUNDWATER REQUIREMENTS	WASTE TREATMENT UNIT AND ALL DROPPERS WILL MEET ALL GROUNDWATER REQUIREMENTS	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 3A
CLEAN WATER ACT									
DEC 1000 200	---	---	---	DISCHARGE OF TREATED GROUNDWATER WILL COMPLY WITH APPROPRIATE WATER QUALITY PLAN	---	SEE ALTERNATIVE 3B	---	SEE ALTERNATIVE 3B	---
NATURAL RESOURCES DISCHARGE (CONTAMINANT) 5100 TO 5100000000 NO CEM 100 00 NO CEM 100 00 NO CEM 100 00	---	---	---	GROUNDWATER TREATMENT UNIT WILL MEET WATER DISCHARGE REQUIREMENTS	---	SEE ALTERNATIVE 3B	---	SEE ALTERNATIVE 3B	---
WATER QUALITY STANDARDS NO CEM 100	WATER QUALITY STANDARDS AND NOT EXCEEDED NO CEM 100	SEE ALTERNATIVE 1	SEE ALTERNATIVE 1	GROUNDWATER TREATMENT UNIT WILL MEET WASTE LOAD ALLOCATIONS	SEE ALTERNATIVE 1	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 1	SEE ALTERNATIVE 3B	SEE ALTERNATIVE 1
1000 PRODUCTION NO CEM 100	---	---	---	GROUNDWATER TREATMENT UNIT WILL MEET TO BE PRODUCED	---	SEE ALTERNATIVE 3B	---	SEE ALTERNATIVE 3B	---
PCRA									
CLOSURE REQUIREMENTS NO CEM 200 100 100 100	---	WILL NOT MEET CAP REQUIREMENTS OF 10000 PERMEABILITY	WILL MEET CAP REQUIREMENTS OF LOWER PERMEABILITY	SEE ALTERNATIVE 2	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 2	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 2	CLEAN CLOSURE AFTER DRAIN CONTAMINATED MATERIAL IS REMOVED
STORAGE CONTAINERS NO CEM 200 100 100	---	---	TEMPORARY STORAGE OF CONTAMINATED MATERIAL EXPOSED FOR THE FINAL TREATMENT WILL MEET THE BE REQUIREMENTS	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A
STORAGE TANKS NO CEM 200 100 100	---	WILL NOT MEET CONTAMINATED MATERIAL WILL BE SUBJECT TO THE BE REQUIREMENTS	SEE ALTERNATIVE 2 STORAGE OF MATERIAL FOR THE FINAL TREATMENT AND WILL FOR UNEXPOSED CONTAMINATED MATERIAL WILL BE SUBJECT TO THE BE REQUIREMENTS	SEE ALTERNATIVE 2	STORAGE OF MATERIAL FOR THE FINAL TREATMENT AND WILL FOR UNEXPOSED CONTAMINATED MATERIAL WILL BE SUBJECT TO THE BE REQUIREMENTS	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A	SEE ALTERNATIVE 3A



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**APPENDIX A**  
**ADMINISTRATIVE RECORD INDEX**

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

NO.	PAGES	DATE	TITLE	AUTHOR	OTHER	DESCRIPTION
1	00/00/00		Notes re Interlake Steamship			Handwritten notes
1	00/00/00		Summary of Quantities of Waste Oils picked up by Laskin Oil from Commercial Shearings			Other
1	00/00/00		Summary of Shipments to Laskin Oil			Other
1	00/00/00		USEPA Response to Request for Information from Bevan	Jacobsen - USEPA	Cavenbrook - Bevan	Correspondence
1	00/00/00		USEPA scheduling of meeting of "primary" generators for 10:00 am, July 1, 1982.	Steven Leifer - USEPA	Perfection Corporation	Correspondence
2	00/00/00		Handwritten notes re conversation with - Haynes re documents			Handwritten notes
2	00/00/00		Request for Information	BGConstantelos - USEPA	Jmolis - GM	Correspondence
2	00/00/00		Partial Organization Chart (Ref. For Laskin Poplar Site) titled "Exhibit D".	Kaiser Aluminum		Other
3	00/00/00		Notice Letter	EAKurent for MRBrown - USEPA	BAJohnson - GM	Correspondence
3	00/00/00		Notice letter to first tier of PRPs	EAKurent for MRBrown - USEPA	BAJohnson - GAC	Correspondence
4	00/00/00		Handwritten notes of various phone calls between USEPA and Atac			Communication Record
5	00/00/00		of wastes sent, dates amounts			Other
5	00/00/00		Various manifests detailing shipments to Laskin Waste Oil.	Litton Great Lakes		Manifests
6	00/00/00		Various POs between Copperweld and Laskin			Accounting Documents
6	00/00/00		Various checks and receipts between Laskin Waste Oil Service and Summit National Liquid Service			Accounting Documents

ADMINISTRATIVE RECORD INDEX  
Laskin/Poljar Oil  
Ashtabula, Ohio

INDEX CASES DATE	TITLE	AL-02	RECIPIENT	DOCUMENT TYPE
6 00/00/00	Various agreements between Connerment and Laskin			Contracts
7 00/00/00	Various checks between Laskin Waste Oil and United Products			Accounting Documents
8 00/00/00	Various manifests and checks from Poplar Oil Co. to National Forge.			Manifests
8 00/00/00	Material Data Safety Sheet titled "Exhibit B" and Conversation Notes of call from Alaskan titled "Exhibit C"	Kaiser Aluminum		Sampling Data
8 00/00/00	Various receipts issued to Kaiser Aluminum & Chemical Corp. by Poplar Oil Co. Inc.	Poplar Oil Co.	Kaiser Aluminum	Accounting Documents
9 00/00/00	Various checks issued by Laskin Waste Oil Service to North East Service Plaza Inc.			Accounting Documents
9 00/00/00	Various checks between General Refractories and Laskin			Accounting Documents
10 00/00/00	Checks, POs re RBS Industries			Accounting Documents
11 00/00/00	Cancelled checks Laskin Waste Oil Service to [REDACTED] Inc.			Accounting Documents
11 00/00/00	Various checks, POs between Buffalo Polcard Plastics and Laskin Waste Oil Service			Accounting Documents
12 00/00/00	Various manifests, shipping documents and checks from Laskin Waste Oil Service to Perry Ship Building.			Manifests
13 00/00/00	Various checks, POs,			Accounting

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX PAGE DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
	and bills re Tennessee Gas Pipeline Co.			Documents
12 00/00/00	Various checks between K-Mart Automotive and Laskin 1976 to 1978			Accounting Documents
12 00/00/00	Various POs between East Ohio Gas Co. and Laskin			Accounting Documents
14 00/00/00	Various receipts, manifests and checks between Laskin Waste Oil Service and Pittsburgh & Lake Erie Railroad			Manifests
15 00/00/00	Various manifests and receipts from Laskin Waste Oil Service to Midwest Rubber Reclaiming Co. for waste oil and water.			Manifests
16 00/00/00	Various checks between Laskin Waste Oil Service and Archer Motor Freight 1976 to 1978			Accounting Documents
16 00/00/00	Various checks and manifests between Standard Transformer and Laskin Waste Oil Service.			Manifests
16 00/00/00	Various manifests detailing waste oil shipments to Laskin from the Locke Machine Co.			Manifests
17 00/00/00	invoiced re Steamship and			Accounting Documents
18 00/00/00	manifests of waste oil shipments to Poplar Oil Co.	Matlack, Inc.		Manifests
20 00/00/00	Various checks from Laskin Waste Oil Service to Kimmel Pontiac			Accounting Documents
21 00/00/00	Various shipping orders and POs re Laskin Waste			Accounting Documents

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
			Oil Service and Bexon Inc.			
21	00/00/00		Various checks, POs, Deposit and Cash records of transactions between Atco Inc. and Laskin Waste Oil Service			Accounting Documents
22	00/00/00		Documents produced in response to requests 5g, 9 and 12			Other
25	00/00/00		Various checks between Diver-Steel City Auto Crushers and Laskin			Accounting Documents
25	00/00/00		Various manifests, checks and receipts between RPLG Valve and Laskin Waste Oil			Manifests
29	00/00/00		Various POs and check register evidencing transactions between General Electric and Laskin Oil Waste			Accounting Documents
29	00/00/00		Various manifests, receipts and checks between Laskin Waste Oil Service and the Pittsburgh & Conneaut Dock co.			Manifests
30	00/00/00		Various manifests, check copies and account payable sheets relating waste oil shipments to Laskin Oil Services from Mercer Forge, Inc.			Manifests
40	00/00/00		Various Documents of liquids shipped from Hoppers Company for the year 1978.			Manifests
49	00/00/00		Various manifests and statements from Poplar Oil Co. to Ohio Broach & Machine Co.			Manifests
49	00/00/00		Various manifests, checks and test results from Rockwell International Corp.			Manifests

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04-12-82

ADMINISTRATIVE RECORD INDEX  
Laskin/Oscar Oil  
Ashtabula, Ohio

INDEX PAGE DATE	TITLE	ALPHA	RECIPIENT	STANDARD FILE
	to Laskin Waste Oil Service.			
50 00/00/00	Various checks, POs and shipping transactions between Jewell and Laskin Waste Oil			Accounting Documents
51 00/00/00	Various checks, POs etc between General Electric and Laskin			Accounting Documents
52 00/00/00	Documents relating to Policy & Procedure, Records Center Procedure and Records Schedule titled "Exhibit F".	Kaiser Aluminum		Other
53 00/00/00	Various checks, POs, Invoices etc between Laskin Waste Oil Service and Browning-Ferris			Accounting Documents
54 00/00/00	Manifests, bid documents, test results and contracts between Rockwell International Corp. and Laskin Waste Oil Service.			Accounting Documents
61 00/00/00	Request for Participation in Response Activities with supporting documents titled "Exhibit E".	R. Perry-Jesse G. Wash., D.C.	R. A. Turner-Alumina Alumina	Correspondence
65 00/00/00	Various POs and Invoices between Jones and Laskin			Accounting Documents
65 00/00/00	Chain of Custody with cover letter dated 1/17/82			Other
76 00/00/00	Various POs between Copperweld Steel Co. and Laskin Waste Oil			Accounting Documents
82 00/00/00	Various checks, POs re Linde Division, Ashtabula, Oh			Accounting Documents
83 00/00/00	Various checks, POs			Accounting

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	ALT-OF	RECIPIENT	DOCUMENT TYPE
			between Commercial Shipping and Laskin Waste Oil Service			Documents
141	00/00/00		Various manifests, invoices and bills of lading from Laskin Waste Oil Service to Perfection Corp.			Manifests
142	00/00/00		Various checks, PCs, re TRW, Minerva, OH			Accounting Documents
151	00/00/00		Documents produced in response to requests 12g and 13i			Other
205	00/00/00		Various checks and invoices between GN and Laskin			Accounting Documents
350	00/00/00		Various court documents re U.S. of America v. Alvin Laskin, et al			Resolving/Other
			- Answer of 3d Party Defendant WCI - 10/31/86			
			- Answer of 3d Party Defendant Matlack 11/14/86			
			- Answer of 3d Party Defendant Kaiser Aluminum & Chemical Co. - 11/04/86			
			- Answer and Affirmative Defenses of 3d Party Defendant: [REDACTED] - 11/13/86			
			- Answer of 3d Party [REDACTED] Pittsburgh & Lake Erie Railroad 10/31/86			
			- Answer of 3d Party Defendant Kimmel Pontiac 10/31/86			
			- Answer of 3d Party Defendant Perry Ship- Building Corp. - 10/31/86			



ADMINISTRATIVE RECORD INDEX  
Laskin/Soplar Oil  
Ashtabula, Ohio

INDEX CASES DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
	- Answer of 3d Party Defendant TGP - Undated			
	- Answer of 3d Party Defendant Rubber Reclaiming Co. - Undated			
	- Answer of 3d Party Defendant National Forge Co. - Undated			
	- Answer of 3d Party Defendant Ohio Smelting & Machine Co. - Undated			
	- Answer of 3d Party Defendant Locke Machinery Co. - Undated			
	- Answer of 3d Party Defendant AES - 9/4/85			
	- Answer of 3d Party Defendant American Cyanide - Undated			
	- Answer of 3d Party Defendant Anchor Motor Freight 11/14/86			
	- Answer and Affirmative Defenses of 3d Party Defendant BOP - 11/12/86			
	- Answer of 3d Party Defendant Chemco - Undated			
	- Answer of 3d Party Defendant Corral - 10/31/86			
	- Answer of 3d Party Defendant Copperweld Undated			
	- Answer of 3d Party Defendant General Electric Undated			
	- Answer of 3d Party Defendant Interlake			

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Kentabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
			Steamship Co. - Undated			
			- Answer of 3d Party Defendant Linton Great Lakes Corp. - 3/17/87			
420	01	12	Various court documents re U.S. of America v. Alvin F. Laskin et al.			Hearings Order
			- AGS Industries Response to 3d Party Plaintiffs 1st Set of Interrogatories - 9/9/86			
			- Response of 3d Party Defendant Kaiser Alum. to Requests for Production of Documents			
			- American Cyanamid Response to 3d Party Plaintiffs 1st Set of Interrogatories and Requests for Production - 11/12/86			
			- Response of 3d Party Defendant MCI to 1st Set of Interrogatories and Request for Production of Documents 11/11/86			
			- Anchor Motor Freight's 1st Set of Interrogatories, Requests for Admissions and Requests for Production of Documents to 3d Party - 12/19/86			
			- Anchor Motor Freight's Amended Response to 1st Set of Interrogatories and Requests for Production of Documents - 11/13/86			

ADMINISTRATIVE RECORD INDEX  
Larkin/Roplan Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	Q-T-OF	RECIPIENT	DOCUMENT TYPE
-------	-------	------	-------	--------	-----------	---------------

- 3d Party Defendant United  
Products Co. Notice of Filing  
of Chapter 11 and of Automatic  
Stay - 9/27/86

- 3d Party Plaintiffs  
Motion to Add Parties, Dismiss  
Parties, Remove Duplicate  
Names  
of Parties and to Correct the  
Caption as to Certain Parties  
2/5/87

- Connall's Notice of  
Correction  
of Typographical Error in  
1st Set of Interrogatories,  
Requests for Admission and  
Requests for Production of  
Documents Propounded to  
3d Party Plaintiffs - 10/15/86

- Answer of 3d Party Defendant  
Midwest Rubber to  
Interrogatories  
8 through 54

- Connall's Response to 1st  
Set of Interrogatories and  
Requests for Production of  
Documents to 3d Party  
Plaintiffs  
11/7/86

- Petroleum Exception Cos.  
Petitions to Case Mgt Order

- Ingersoll Steel Company's  
Responses to Interrogatory  
Nos. 8-33 and Requests for  
Production Nos. 2-21 -  
11/25/86

- Notice of Appearance of  
Attys for Ohio Broach &  
Machine Co. - 9/24/86

- Notice of Appearance of

ADMINISTRATIVE RECORD INDEX  
Larkin/Proctor Oil  
Ashtabula, Ohio

INDEX PAGE DATE	TITLE	REFERENCE	REMARKS	REMARKS
	Set's for Perry Shredding 10/21/88			
	Notice to have removal of Larkin Oil 11/15/88			
	- Response of Matlack to 1st Set of Interrogatories and Request for Production of Documents - 11/12/88			
	- Perfection Corp. Response to 1st Set of Interrogatories and Requests for Production of Documents - 11/14/88			
	- Notice of Withdrawal of Complaint for 3d Party Defendant Perry Shredding			
	- Kaiser Alum. Answer to 1st Set of Interrogatories 11/13/88			
	- Matlack's 1st Set of Interrogatories, Requests for Admissions and Requests for Production of Documents 1/3/87			
	- Perfection Corp's 1st Set of Interrogatories, Requests for Admissions and Requests for Production of Documents 1/24/87			
850 00/00/00	Set's for Perry Shredding 10/21/88			Sampling Data
2 77/00/00	Various checks between Cacran Oil Co. and Larkin Waste Oil Service			Accounting Documents
1 77/07/86	One cancelled check from Larkin Waste Oil Service to Andy Skidmore.			Accounting Documents
6 78/00/00	Various checks and			Accounting

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Astrabula, Ohio

INDEX	PROCES DATE	TITLE	REF-TO	RECIPIENT	DOCUMENT TYPE
		Invoices between Laskin Waste Oil Service and Benetton Equipment			Documents
1	78/07/21	Balance due on account of 8/0/78	Browning-Ferris	Laskin Waste Oil Service	Correspondence
1	78/08/02	One check issued by Laskin Waste Oil Service to O & P Oil & Gas Inc.	Laskin Waste Oil Service	O & P Oil & Gas	Accounting Document
3	78/08/09	Unexecuted Contract between Tennessee Gas Pipeline Co. and Laskin Waste Oil	RCHeas - Tennessee Gas Pipeline	Laskin Oil Service	Contracts
1	78/08/07	Letter agreement re disposal of waste creosote	Browning-Ferris	Laskin Waste Oil Service	Correspondence
1	78/08/08	Check between Jerry Tune and Laskin			Accounting Documents
4	78/09/10	TRW evaluation of feasibility of incineration of mineral oil containing PCBs at levels up to 500 ppm	JFAtaraska - TRW	OCarry - EPA	Correspondence
2	78/10/05	Sampling results from two sludge samples	Eric Testing Laboratories	Kaiser Aluminum & Chem.	Sampling/Data
1	78/11/07	Letter advising that Sulveer 1025 does not contain any PCB's.	J. Taylor - Standard Oil Co.	Mark Shears-Perfection Co	Correspondence
1	79/02/10	Check from AFLaskin of Poplar Oil Co. to Union Oil in the amount of \$1,000.00	AFLaskin - Poplar Oil Co.	Union Oil	Other
1	79/04/14	Check from Poplar Oil Co. to Locke Machine Co.	Poplar Oil Co.	Locke Machine Co.	Accounting Documents
1	79/04/25	Jefferson firm serious polluter, U.S. says in suit	Cleveland Plain Dealer		Newspaper Article
1	79/06/05	Oil Concerning PCBs	RRBammoth - UCC Metals Division	FXFusaro - UCC	Memorandum
1	79/06/08	Denial of handling bulk quantities of oil containing PCBs	RFAtaraski - Browning-Ferris	AFLaskin - Laskin Waste	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Austabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
4	79/10/11		PCB in Mineral Oil Analysis	MEPices - TSI	ECoby - UCC	Sampling Data
12	79/10/12		Enclosing product information sheets and confirming that UCC waste oil contains no PCBs	RPSmith - UCC	Laskin	Correspondence
10	79/10/21		Accounting Docs. re: shipments of waste oils to Poplar with cover sheet titled "Exhibit A".	Kaiser Aluminum		Accounting Documents
6	80/02/04		Shipping authorization and testing results for Solid Waste PCB Capacitors and Oil-Water Waste Sludge	GEOS Int'l., Inc.	Leo Marchand-Kaiser Aluminum	Contract
1	80/03/25		Record of phone conversation with Laskin's attorney re source of PCB contamination			Communication Record
1	80/03/27		BP's site on Pine St.	JLBurgan - OEPA	DEKins - OEPA	Memorandum
1	80/03/25		BP's transfer station located on Pine St.	RJBurgan - OEPA	DEKins - OEPA	Memorandum
1	80/05/06		Contract for Oil/Water removal	Kaiser Aluminum Co.	Poplar Oil Co.	Contract
1	80/09/15		Directive not to use Laskin Waste Oil Service	MEZogdan - TRW	Blunice - TRW	Memorandum
3	81/08/00		Letters regarding <del>unpublished</del>	RMoney - BMP	Laskin Waste Oil Service	Correspondence
33	81/05/04		<del>Ground Water</del>	MCNast - Soil Testing Services	DFapone - USEPA	Reports/Studies
4	81/08/00		Product Information sheet on Energol HLP Lubricating Hydraulic Oil	SCHIG, Borden Oil Co., & BP		Other
1	81/08/18		Certificate of Analysis for 1-sample for EP-toxicity of waste oil drum contents	Microbac Laboratories	Kaiser Aluminum	Sampling/Data
10	81/11/11		Certificate of Analysis	Microbac Laboratories	Kaiser Aluminum	Sampling/Data

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Asphaltum, Ohio

INDEX PAGE# DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
1 06/12/98	Existing sampling data from BPT storage tank	ST. LAWRENCE - USSEA	USSEA - USSEA	Communication Record
2 06/12/98	Notes of telcons between GM and USSEA			Communication Record
3 06/12/98	Notes of phone conversations with representatives re TAN document submitted and request for meeting			Communication Record
4 06/12/98	Notes of various phone calls between USSEA and BPT in July and August 1998			Communication Record
7 06/12/98	Notes of various phone conversations between BPT and USSEA in June and July 1998			Communication Record
ST 06/06/98	Revised Proposal for Revised Action Plan	SCMADONKI - DEOS	USSEA - USSEA	Communication Record
1 06/06/98	Phone conversation with Michael Rucker Co. where they agree to submit records related to Laskin.			Communication Record
1 06/06/98	Record of phone conversation between USSEA and BPT Inc.			Communication Record
1 06/06/98	Phone conversation between Rucker and			Communication Record
1 06/06/98	Record of phone conversation between General Refractories and USSEA			Communication Record
1 06/06/98	Phone conv. with Locke Machine Co., Larry Davis-Plant Mgr. agreeing to submit records related to Laskin.			Communication Record

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
1	88	05/16	Laskin/Poplar Oil Phone Conversation with Generators	USEPA	James Alann-Marsen Alumin	Communication Record
1	88	05/17	Record of phone conversation with OSMITH - UCC re Ashtabula facility			Communication Record
1	88	05/17	Denial of any guilt by Ohio Speech & Machine Co. through their counsel of contributing to any violations.	A. McLaughlin-Weston, Mord, et al.	Catherine fox - USEPA	Correspondence
1	88	05/17	Recd relating phone conversation with UCC re meeting and what information needed to demonstrate nonliability	BSmith - USEPA	CFox - USEPA	Response
1	88	06/17	Record of phone conversation with Thomas Burgunder, atty. for Koppers Co.	Templeton Smith - USEPA		Communication Record
1	88	06/17	Phone conversation with Natlack, Inc. agreeing to submit records related to Laskin.	USEPA		Communication Record
1	88	06/17	Phone conversation with George Wells of National Forge where he agrees to submit records of any company dealings with Laskin.	USEPA		Communication Record
1	88	06/17	Phone conversation with [REDACTED] & Machine Co. [REDACTED] agree to submit records related to Laskin and requests a meeting.	USEPA		Communication Record
1	88	06/17	Phone conversation with Charles Patterson, Chief Engineer - Mercer Forge who agrees to submit records related to Laskin.	USEPA		Communication Record
3	88	06/17	Confirming agreements made re Superfund claim	CCSmith - UCC	CFox - USEPA	Correspondence



ADMINISTRATIVE RECORD INDEX  
Laskin/Asplan Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
3	82	06/17	Response to 6/16/82 teleconferences with recipients.	LeRoy Davis - Locke Machine Co.	Catherine Fox - USEPA	Correspondence
1	82	06/18	Record of phone conversation between USEPA and EPA.			Communication Record
1	82	06/18	Record of phone conversation between Commercial Shearings and USEPA			Communication Record
1	82	06/18	Record of phone conversation between General Electric and USEPA			Communication Record
1	82	06/18	Record of phone conversation between Dotsenwald and USEPA			Communication Record
1	82	06/18	Confirming agreement to send documents	CLFox - USEPA	HEBennard - Gen Refrac	Correspondence
1	82	06/18	Enclosing PRP list and confirming agreement to send documents	CLFox - USEPA	TJManney - Pickards Mohr	Correspondence
1	82	06/18	Confirmation of phone conversation of 6/16/82 where Midwest Rubber Reclaiming Co. agreed to send any documents relating to Laskin.	Catherine Fox - USEPA	R. Ishinghouse-McRae	Correspondence
1	82	06/18	Confirmation by letter of phone conversation of 6/17/82 where National Forge agrees to submit documentation of dealings with Laskin.	George Wells - National Forge	Catherine Fox - USEPA	Correspondence
1	82	06/18	Confirming telcon and request to review USEPA data re Laskin Waste Oil	TPFerdengast - Conrail	RGrizes - USEPA	Correspondence
1	82	06/18	Record of phone conversation between USEPA and Gary Weaver of Atec Inc.	USEPA		Communication Record
1	82	06/19	Enclosing PRP list	CLFox - USEPA	CCSmith - UCC	Correspondence
1	82	06/19	Letter confirming phone	Catherine Fox - USEPA	Allen	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Roplan Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	REF-TO	RECIPIENT	DOCUMENT TYPE
			conversation of 5/17/82 in which company agreed to send copies of all documents relating to Laskin/Roplan.		Knecht-Maslach, Inc.	
1	82/06/19		Confirmation of phone conversation of 5/17/82 in which National Forge agreed to send the USEPA documents of any dealings they may have had with Laskin.	Catherine Fox - USEPA	Stewart-National Forge	Correspondence
1	82/06/19		Letter enclosing list of "primary" group, PRP list, Copy of Koppers invoices and pleading cover sheets. Confirms phone conversation of 5/17/82 where Koppers agrees to send all documents relating to Laskin-Roplan.	Catherine Fox - USEPA	Thomas Bengtson-Koppers	Correspondence
2	82/06/19		Confirmation Letter re: telephone conversation of 5/17/82 where it was agreed that Mercer Forge will send all documents relating to any transactions with Laskin.	Catherine Fox - USEPA	M. Patterson-Mercer Forge	Correspondence
1	82/06/21		Record of phone conversation between Copes and USEPA			Communication Record
1	82/06/21		Record of phone conversation between Blittle - BFI and [REDACTED]			Communication Record
1	82/06/21		Confirming BFI's agreement to send documents re transactions with Laskin Waste Oil Service	CLFox - USEPA	BlJohnson - BFI	Correspondence
1	82/06/21		Confirming phone conversation in which Atac agreed to produce documents	CLFox - USEPA	Blaver - Atac Inc.	Correspondence
1	82/06/21		Enclosing PRP list and confirming agreement to send documents relating	CLFox - USEPA	JMoran - Commercial Shing	Correspondence

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ADMINISTRATIVE RECORD INDEX  
Lashin/Foglar Oil  
Ashtabula, Ohio

INDEX PAGE DATE	TITLE	REF-TO	RECORDED	DATE
	TO TRANSMISSIONS WITH LASHIN OIL			
1 82/06/21	EXCISING FOR LASH	CLFox - USEPA	ASHTABULA - 704	COMMUNICATIONS
1 82/06/21	Letter confirming telephone conversations re action Kaiser agrees to send all data relating to transmissions with Foglar Oil Co.	Catherine Fox - USEPA	JOHN SUPERVISOR COMMUNICATIONS ALMA	
5 82/06/21	Results of analysis of oil from sludge and water from National Forge Co.	Daniel Norman-Foglar and Catherine Fox	JOHN SUPERVISOR COMMUNICATIONS ALMA	
1 82/06/22	Letter stating that there was no agreement by USEPA to any letter regarding USEPA records	After KNOX - National Inc.	Catherine Fox - USEPA	COMMUNICATIONS
1 82/06/22	Phone call with USEPA regarding data for Lashin transmissions and devices any correspondence with Lashin.	USEPA		COMMUNICATIONS Records
1 82/06/22	Phone conversation with Ron Lashin of Rockwell Int. where they request a meeting and agree to furnish any documents relating to Lashin.	USEPA		COMMUNICATIONS Records
1 82/06/23	Record of phone conversation between SN and USEPA			COMMUNICATIONS Records
1 82/06/24	Employing PMO list:	CLFox - USEPA	Bulletin - 501	COMMUNICATIONS
1 82/06/24	Employing PMO list and agreement to documents	CLFox - USEPA	Sheild - Gar Electric	COMMUNICATIONS
1 82/06/24	Phone call: left message with Berger of Koppers re: meeting	Catherine Fox - USEPA		COMMUNICATIONS Records
1 82/06/24	Confirming telcon and request for documents	JTKocher - USEPA	Jackson - Copperwale	COMMUNICATIONS
1 82/06/24	GR reviewing masters sent	UFCharles - GR	CFox - USEPA	COMMUNICATIONS

ADMINISTRATIVE RECORD INDEX  
Laskin, Poplar Oil  
Ashtabula, Ohio

INCL	INDEX	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
			to Laskin and intent to attend meeting			
1	82/06/82	82/06/82	Phone call from Koppers: will attend meeting; looking for records; will coordinate.	Catherine Fox-USEPA		Communication Record
1	82/06/82	82/06/82	Confirmation of phone conversation requesting copies of Kaiser documents.	James Blann-Hansen Alameda	Catherine Fox-USEPA	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	CAvermore - B&W	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	ECBaton - LCC	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	Johnson - Ceresdental Shing	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	LeMarla - B	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	SPeak - Ser Electric	Correspondence
1	82/06/82	82/06/82	Confirming meeting	McNee - USEPA	TJMarina - Richards	Correspondence
1	82/06/82	82/06/82	Confirming scheduled meeting	McNee - USEPA	MRPhillips - TRW	Correspondence
1	82/06/82	82/06/82	Follow-up letter to phone conversation setting meeting to discuss voluntary clean-up for July 1, 1982.	Jonathan McNee - USEPA	A. Hollander-Weston, Hunt	Correspondence
1	82/06/82	82/06/82	Confirmation of meeting for 7/1/82 to discuss voluntary clean-up.	Jonathan McNee - USEPA	Thomas Benguram-Koppers	Correspondence
1	82/06/82	82/06/82	Request of samples	PhRekshan - CCL	POBnick	Correspondence
1	82/06/82	82/06/82	Phone conversation with David Jacobson of Perfection Corp. where they request a meeting with the USEPA and agree to submit any documents concerning Laskin.	USEPA		Communication Record
2	82/06/82	82/06/82	Response to telephone conversation of 6/16/82	R. Isringhaus-Midwest Rubber-Feclatin	Catherine Fox - USEPA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Clorian Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
			and letter of 6/19/88.			
6	88/06/89		Given letter for Ashtabula production of documents to USEPA	Stweaver - Ashtabula	CLFex - USEPA	Correspondence
1	82/07/86		Record of telcon and request for documents by Gen Electric			Communication Record
1	82/07/86		Enclosing documents	JMcPhee - USEPA	SPeard - Gen Electric	Correspondence
3	82/07/86		Request for documents showing transactions between Connall and Laskin Waste Oil Service	JMcPhee - Connall	JMcPhee - USEPA	Correspondence
1	82/07/87		Record of telcon between Codes and USEPA			Communication Record
1	82/07/87		Request for documents showing liability of Be-an	CLFex - Be-an	JMcPhee - USEPA	Correspondence
1	82/07/87		Phone discussion of invoices and samples with Bergunder of Koppers Co.	Catherine Fox - USEPA		Communication Record
1	82/07/88		Phone con. concerning Bergunder of Koppers Co. misgivings about upcoming meeting.	Catherine Fox - USEPA		Communication Record
1	82/07/88		Gave over the phone the time and address of meeting with Bergunder of Koppers Co.	Catherine Fox - USEPA		Communication Record
1	82/07/88		Conversation with Mary Bergunder of Mercer Forge. Mercer has questions about sampling protocols, & list of USEPA waste disposal sites. Says Accounting is looking for Laskin documents.	Catherine Fox - USEPA		Communication Record
1	82/07/89		Record of telcon re status of GE record search			Communication Record

ADMINISTRATIVE RECORD INDEX  
Lashin/Pollan Oil  
Astrakhan, Ohio

INDEX NUMBER	DATE	TITLE	REFERENCE	ADMINISTRATIVE
2	82/07/08	Response to letter of July 31, 1982 and enclosed materials	AS-400	ADMINISTRATIVE
2	82/07/11	Request by Refinement Corp. that they be treated as generator of benign oil as others have been treated.	Refinement - USGA	Correspondence
1	82/07/12	Phone conversation with Ray Patterson of NRC Forge telling him he will receive a copy of procedures for sampling.	Clay, Mark - Arden & Hadden Catherine Fox - USGA	Correspondence
1	82/07/12	Phone conversation with Tony Ruckman-USGA asking him to check and locate guidelines or techniques for outside laboratory testing of samples.	Catherine Fox - USGA	Correspondence Records
1	82/07/13	Cover letter to Submittal of accounting machine selling with Lashin Waste Oil and Pollan Oil Co.	Ray Patterson/Refinement Forge Catherine Fox - USGA	Correspondence Records
25	82/07/13	Enclosing Mobil Material Safety Data Bulletins on Rarus 37, Mobil DTE Oil Light, Mobil DTE Oil Medium, Mobil DTE Oil Heavy Medium, Mobil DTE Extra Heavy, Mobil A27	Elmadov - Mobil Oil Corp.	Correspondence
1	82/07/14	Meeting with Ray Rucker	JBurnley - USG Linda Day	Meeting Notes
1	82/07/14	Follow up letter to that of 6/18/82 by National Forge giving waste quantities.	George Wells - National Forge Catherine Fox - USGA	Correspondence
2	82/07/14	Copperweld Response to Request for Information	LBGriffith - Atty for Copperweld JMcShane - USGA	Correspondence
2	82/07/15	Submittal of documents	WGBBamhart - General Refractories Co. Fox - USGA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Applan Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	OUT-OF	RECIPIENT	DOCUMENT TYPE
2	82/07/16		Enclosing documents detailing BP's transactions with Laskin Waste Oil Service	BUCorrad - BP	CLFox - USEPA	Correspondence
1	82/07/17		Record of phone conversation between Commercial Shearling and USEPA			Communication Record
1	82/07/18		Cover letter only to submittal of a draft USEPA document entitled "The Determination of Polychlorinated Biphenyls in Transformer Fluid and Waste Oil."	Catherine Fox - USEPA	M. Patterson-Pender Forge	Correspondence
2	82/07/18		Acknowledging receipt of copies of shipping documents and further advice on records search	OSG/John - UCC	CLFox - USEPA	Correspondence
2	82/07/21		Connall submittal of documents and request for confidentiality	TRGencengast - Connall	Johnnie J. CLFox - USEPA	Correspondence
1	82/07/22		Record of phone conversation between USEPA and Connall			Communication Record
1	82/07/22		Atec follow-up response to Request for Information	BTWeaver - Atec Ind.	CLFox - USEPA	Correspondence
2	82/07/22		Letter advising USEPA that author represents Litton Great Lakes Corp. <del>company</del> . in this case.	John J. O'Keefe, Jr. - Litton Inc.	Catherine Fox - USEPA	Correspondence
3	82/07/22		<del>Steakhouse</del> The Stearnship Co. Oil Matter re: Laskin Oil Co.	TJManthey - Pickands Mather		Other
2	82/07/22		Objections of Copperweld	LEGriffith - Atty for Copperweld	RPerry - USEPA	Correspondence
1	82/07/26		Response to USEPA detailing quantity and types of waste oil.	R.Gentile-Pittsburgh&Connant Dock.	S.Leifer-USEPA	Correspondence
20	82/07/28		MRS Report	EJJurczyk - USEPA		Other

ADMINISTRATIVE RECORD INDEX  
Lashin/Solapur Oil  
Beraudhla, Ohio

DATE DATE DATE

DATE	DESCRIPTION	REMARKS	DATE	DESCRIPTION	REMARKS
02/07/03	Completion of Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between Dickens Mather and USEPA Petersen.	Communication Record
02/08/03	The notice to USEPA that the emergency removal action is necessary, and that removal action should be halted until completion of evaluation of alternatives is necessary.	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between Interlake and USEPA re conversation with Buros	Communication Record
02/08/03	Existing copies of all new documents relating to the Lashin/Solapur Oil is necessary and information to USEPA	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Notes of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Emergency setting form agreement regarding the evaluation of documents between USEPA and CST	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Agreement to USEPA allegation that Lashin/Solapur Oil is doing the parties are are responsible for hazardous wastes.	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Record of Request for documents indicating Copperhead liability	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record
02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Approved by Lashin/Solapur Oil and Beraudhla Oil is not a dangerous waste category.	02/08/03	Record of telcon between CST and SBAR re Lashin Waste Oil Service	Communication Record



ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
1	82/09/16		Enclosing documents showing BFI's involvement at the site	CLFPA - USEPA	W.F. Isgrat - Atty for BFI	Correspondence
1	82/09/17		Record of telcon between General Refractories and USEPA			Communication Record
1	82/09/23		Record of telcon between Pickands Mather and USEPA re meeting			Communication Record
4	82/09/24		Final Analyses Results from Samplings Surveys 5/31/81 and 6/24/81	D. Murray - USEPA	A. Putter - USEPA	Memorandum
6	82/09/25		Formal response to information request contained in letter dated 5/19/82 and UCC request that all claims against it be withdrawn	CCB/Sch - UCC	CLFPA - USEPA	Correspondence
20	82/09/27		Enclosing copies of photographs from report on Laskin Oil	T. Manthey - Pickands Mather	CLFPA - USEPA	Correspondence
14	82/09/27		Site Inspection			Reports Studies
6	82/09/28		Document Exchange with Copes-Vulcan	K. Moore - Atty for Copes	J. McPhee - USEPA	Correspondence
1	82/09/10		Comments on BNA article	T. Manthey - Pickands Mather	F. Bins - USEPA	Correspondence
3	82/09/10		Cover letter to and information Broach & Machine Co. regarding documents.	K. Moore-Squires, Sanders & Deschay	Jonathan McPhee - USEPA	Correspondence
1	82/09/14		Information of chemical composition of liquids	W.F. Isgrat - Atty for BFI	CLFPA - USEPA	Correspondence
1	82/09/15		Koppers Interoffice Comm. reviewing Bergunder's files to determine the quantities of waste oil which may have been disposed at Laskin.	J. M. Gern - Koppers Co.	T. Bergunder - Koppers Co.	Memorandum

02/12/88

ADMINISTRATIVE RECORD INDEX  
Laskin/Doplar Oil  
Ashtabula, Ohio

INDEX PAGE DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
2	82/09/20	Request that Rodwell be deleted from the list of CCE's		Correspondence
1	82/09/20	Letter advising General Rodwell that author represents the interests of the Union entities in the Laskin case.	J. McInnes - USEPA	Correspondence
4	82/09/24	Locating individual officers of certain PPS	John J. Dwyer, Jr. - Union Ind. Affairs	Correspondence
1	82/10/05	Phone conversation with Andrew McLandrum, atty. for Ohio Beach & Marine Co. detailing some differences between Laskin invoices and other Inv.	J. McInnes & Ofor - USEPA	Correspondence
2	82/10/06	Confirmation of phone conversation on 10/5/82 where McLandrum addressed changes made on the Laskin invoices and where he differs with the USEPA about total gallon amounts.	Catherine Fox - USEPA	Correspondence Records
1	82/10/07	Record of telcon between Interlake and USEPA re exempting Interlake as PPS	McLanahan-Weston, Mord, Fallon, et al; Catherine Fox - USEPA	Correspondence
2	82/10/07	Request to eliminate Interlake as a PPS	TJ Manthey - Pickands Mather	Correspondence
100	82/10/15	Enclosing various health and safety sheets on <del>products</del> <del>products</del>	Elisaviv - Mobil	Correspondence Elect
1	82/11/17	Enclosing documents requested by USEPA	SEAC - General Electric	Correspondence
5	82/12/12	Attaching Summary of Analysis and Conclusions USEPA and State of Ohio v. Laskin Waste Oil Co.	J. Manthey - Pickands Mather	Correspondence
2	82/12/22	Confirming scheduled meeting	J. McInnes - USEPA	Correspondence
4	82/12/22	Preliminary Assessment	KGVueger - Ecology & Environment USEPA	Reports/Studies

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	DOCS	DATE	TITLE	ACT-CP	RECIPIENT	DOCUMENT TYPE
						Other
130		83/12/83	Statement of Non-Applicability Corrail Pursuant to the Petroleum Exemption under CERCLA			Other
30		83/01/86	Summary of Record Review Activities re Laskin			Other
2		83/01/82	Additional information re: waste oil constitution.	Clay Mock - atty. for Perfection	Catherine Fox - USEPA	Correspondence
3		83/01/89	Request to remove Pickards Mather from PRP list	T. Mansney - Pickards Mather	J. Kline - USEPA	Correspondence
1		83/02/85	Restoration of requests for EPA to concur with Statement of Non-Applicability under petroleum exemption to CERCLA and for acknowledgement	J. P. Lachner - Corrail	CFox & J. Kline - USEPA	Correspondence
2		83/03/89	Update on response actions performed by the USEPA.	B. Constantelos - USEPA	R. Leslie - Ackwell	Correspondence
2		83/03/89	Notice letter to first tier PRPs and Request for cleanup	B. Constantelos - USEPA	W. Phillips - TR	Correspondence
2		83/03/89	USEPA invitation to conduct response and remedial actions.	Basil Constantelos - USEPA	N. Bernstein-Defect ion Co	Correspondence
4		83/03/88	FOIA Request	CCS:1111 - UCC	B. Constantelos - USEPA	Correspondence
1		83/03/89	BFI Response to Notice Letter	W. Falsgraf - Atty for BFI	B. Constantelos - USEPA	Correspondence
4		83/03/81	Response from first tier PRPs re 3/9/83 letter USEPA	K. Moore - Atty for Copes	B. Constantelos - USEPA	Correspondence
1		83/03/82	Response to Notice Letter	J. Powers - Atty for Commercial Shrg	B. Constantelos - USEPA	Correspondence
1		83/03/85	Record of telcon between USEPA and Pickards Mather re response to notice letter			Communication Record
2		83/03/80	Request for Information	M. Greenberg - Eagle Picher	B. Constantelos - USEPA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
	2	83/03/31	Request for response	JRJenchuna - Connail	BGConstantelos - USEPA	Correspondence
117	83/04/16		Periodic Action Master Plan - RMP	ChEM Hill and Ecology & Environment	USEPA	Reports/Studies
1	83/04/27		TSP Response to EPA notice letter and TSP Request for Information	EDMoore - TSP	BGConstantelos - USEPA	Correspondence
2	83/04/28		Offer by Ohio Brush & Machine Co. to settle with the USEPA their financial liability.	Andrew McLandrich-Weston, Hurd, et al	Jonathan McPhee-USEPA	Correspondence
1	83/05/13		Request for meeting	SRead - General Electric	JMcPhee - USEPA	Correspondence
5	83/05/13		Recd of 3/3/83 letter and request for clarifications	LETosi - Atty for GM	BGConstantelos - USEPA	Correspondence
1	83/05/15		Request for meeting	SRead - General Electric	JMcPhee - USEPA	Correspondence
3	83/05/16		Handwritten note re Connail as a hazardous waste generator			Handwritten Notes
1	83/07/10		NPL Site Summary	USEPA		Other
1	83/07/21		GM prepared to provide EPA with all shipping documents in its possession	LETosi - Atty for GM	BGConstantelos - USEPA	Correspondence
4	83/07/28		Comments and suggestions on May 1983 letter from USEPA	KCMoore - Atty for Copes	BGConstantelos - USEPA	Correspondence
66	83/07/29		Plan Field Investigation Liability Study	ChEM Hill and Ecology & Environment	USEPA	Reports/Studies
2	83/08/03		Notice of a possibly solvent successor to Standard Transformer.	KMoore-Squire, Sanders et al	BConstantelos-USEPA	Correspondence
1	83/08/12		Confirming meeting and agenda	SRead - General Electric	JMcPhee - USEPA	Correspondence
2	83/08/17		Request for USEPA to recognize Copes not PRP	KCMoore - Atty for Copes	BGConstantelos - USEPA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	OUT-OF	RECIPIENT	DOCUMENT TYPE
	2	83/12/00	USEPA response to 9/2/83 letter Draft	BGConstantelos - USEPA	LETest - Atty for SM	Correspondence
	4	83/12/00	Offer to exchange documents	LETest - Atty for SM	BGConstantelos - USEPA	Correspondence
	1	83/09/15	Confirmation of no PCBs in TRM Sol	McLuff - Master Chemical Corp.	Whitman - Copes	Correspondence
	1	83/09/19	Notes of meeting re sampling			Meeting Notes
	1	83/09/29	TRM SOL not hazardous waste under RCRA	McSherry - Master Chemical Corp.	Whitman - Copes	Correspondence
	5	83/09/30	Siteout AIR does not contain PCBs	Jeffrey - Gulf	Whitman - Copes	Correspondence
	1	84/01/02	Request to refrain from action until further discussions	OGHaynes - Atty for SM	DALLinton - USEPA	Correspondence
	2	84/01/07	Cornell Response to Request for Information	JBlanchard - Cornell	JMcPhee - USEPA	Correspondence
	2	84/02/22	Detail of successor relationship of Schlusberger Ltd. to Standard Transformer.	Jordan Thompson-Schlusberger Ltd.	J. McPhee - USEPA	Correspondence
	5	84/03/23	Additional information showing that Copes waste oil was not hazardous under Superfund act	KChoores - Atty for Copes	BGConstantelos - USEPA	Correspondence
	39	84/04/30	Proposed Remedial Action Feasibility Study - Liquid Removal	OSM Hill and Ecology & Environment	USEPA	Reports/Studies
	7	84/05/23	Request for answer to April 1984 letter and affirmation of willingness to continue negotiations	KChoores - Atty for Copes	BGConstantelos - USEPA	Correspondence
	5	84/06/25	Renewal of Copes Request that EPA recognize that it is not a PRP	KChoores - Atty for Copes	BGConstantelos - USEPA	Correspondence

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Laskin/Aspiar O.I.  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
2	84/07/03		Health issues related to TCOO	VCHOU - OHF	ATTORNEY - USEPA	Correspondence
1	84/03/05		Menden Forge's request to the USEPA that their Response to the Agency's Information request be treated as Confidential Business Information.	Tom McFree - USEPA	Ruth Parsons - USEPA	Memorandum
42	84/10/02		Final Work Plan Feasibility Study	OHF Mill and Ecology & Environment	USEPA	Reports/Studies
37	84/10/09		GM Response to USEPA Information Request	GM		Correspondence
2	84/11/17		GM Response to Information Request by USEPA	OSherman - Att. for GM	JTMcFree - USEPA	Correspondence
3	84/11/05		Note and attachment re withdrawal of GM referral	RACines - USEPA	JTMcFree - USEPA	Memorandum
5	85/03/29		Testing oil for dioxins and related compounds	JRCasbell - Koppers Co.	Smolkins - USEPA	Correspondence
3	85/04/00		Listing of substances identified at site			Other
64	85/05/31		Affidavit of James M. Harris	JMharris - R-PAC Valve (Div of WCI)		Other
163	85/08/00		Dioxin Data Report	Breth Labs	USEPA	Sampling Data
3	85/08/29		Dioxin testing results and approval of work plan	Drapkins - USEPA	JRCasbell - Koppers Co.	Correspondence
25	86/04/00		Analysis for the Aspiar Site	Weston-Span	USEPA	Reports/Studies
3	86/06/12		Supplemental Affidavit of James L. Calhoun	JLCalhoun - White Consld Ind (WCI)		Other
39	86/08/29		Record of Decision (ROD)	USEPA		Memorandum
9	86/09/16		Amended Administrative Order	USEPA		Pleadings/Court
34	86/11/00		Soils Sampling Plan	Engineering Science	USEPA	Reports/Studies

ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

INDEX	PAGES	DATE	TITLE	AUTHOR	RECEIVED	DOCUMENT TYPE
38	88	11/10	Sampling Plan for Pits and Tanks	Engineering Science	USEPA	Reports/Studies
4	88	11/12	Locke Machine Company's Affidavit Pursuant To Laskin/Poplar Joint Defense Agreement	David Lockner - Locke Machine Co.		Correspondence
51	87	01/89	Remedial Action Sampling Activities	Kecsalik & Eddy	USEPA	Reports/Studies
100	87	03/89	Results of Soils Sampling - Volume 2	Engineering-Science	USEPA	Reports/Studies
152	87	03/89	Remedial Action Work Plan for Tank and Pit wastes - Volume 1	Engineering-Science	USEPA	Reports/Studies
1	87	07/88	Identification of Federal ARARs	Shulica - USEPA	USEPA - Various	Memoranda
1	87	07/88	Request for State ARARs	W. Adams - USEPA	S. G. Henshaw - CEPA	Correspondence
1	87	07/88	Record of conversation with J. Lenssen re Landfarming	RDagnall - USEPA		Communication Record
1	87	07/88	Record of telcon with D. Petrosky re PCB Regulations	RDagnall - USEPA		Communication Record
1	87	08/88	Record of telcon with L. Fabiszski re ARARs in soils	RDagnall - USEPA		Communication Record
12	87	08/87	Onyiah Unit Draft ROD	DR Spencer - USEPA	RDagnall - USEPA	Memoranda
82	87	08/87	Feasibility Study Source Material Laskin/Poplar Site	USEPA		Reports/Studies
150	87	08/10	Final Work Plan Phase 2 RI	CH2M Hill	USEPA	Reports/Studies
5	87	08/12	Summary of State ARARs	KBones - CEPA	RDagnall - USEPA	Correspondence
124	87	08/88	Transcript of public hearing held at the	USEPA		Meeting Notes

ADMINISTRATIVE RECORD INDEX  
Lester/Scholar Oil  
Astrakhan, Ohio

INDEX PROCESS DATE	TITLE	ATTORNEY	RECIPIENT	DOCUMENT TYPE
	Astrakhan County, Cleveland, Pennsylvania, Ohio on 8/15/87			
2 87/09/13	Request for extension of time to submit comments on the RFE	Waggoner - Atty for Union Carbide Division - USEPA	USEPA	Correspondence
2 87/09/00	TRM Response to Request for Information and FOIA Request	Waggoner - Atty for TRM	USEPA	Correspondence
1 87/09/19	Response to USEPA Information Request	Paul Baumgart-Standard Transformer	USEPA	Correspondence
2 87/09/11	Legal questions to the USEPA in response to 8/18/87 letter.	8/18/87 letter for National Forge	J. McNamee - USEPA	Correspondence
4 87/09/11	Response of National Forge Company to 8/18/87 USEPA Information Request along with the Affidavit of Larry V. Friend for National Forge Company.	Re: 8/18/87 letter for National Forge	Ruth Mancos - USEPA	Correspondence
1 87/09/14	Record of telcon with Clindsay and Thairball re Cleanup Levels	RDagnall - USEPA		Communication Record
1 87/09/16	Record of telcon with RTraver re Soil Washing	RDagnall - USEPA		Communication Record
2 87/09/16	Record of telcon with Cunningham re Petroleum Exclusion	RDagnall - USEPA		Communication Record
3 87/09/16	Response to USEPA Request for information of 8/18/87.	Billie Nolan - Koopers Co.	Ruth Mancos - USEPA	Correspondence
65 87/09/16	Commercial Shearing Response to Request for Information	JG Smith - Commercial Shearing	Ruth Mancos - USEPA	Correspondence
3 87/09/17	Invitation to review data and files	Waggoner - Atty for Various Divs	Ruth Mancos - USEPA	Correspondence
4 87/09/17	Response to Notice Letter and Invitation to inspect documents	Waggoner - Atty for Various Divs	Ruth Mancos - USEPA	Correspondence



ADMINISTRATIVE RECORD INDEX  
Laskin/Poplar Oil  
Ashtabula, Ohio

NO.	PAGES	DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
38	87	09/18	Response to USEPA Information Request of 8/18/87 with Exhibits A and B	M. Ann Bradley/mattv. for Kaiser	Ruth Mancos - USEPA	Correspondence
1	87	09/21	Record of telecon with BScyphews re Land Disposal Regulations	EDagrell - USEPA		Communication Record
1	87	09/22	Union Carbide Response to Request for Information	WEdgerton - Atty for Union Carbide Francis - USEPA		Correspondence
3	87	09/22	Response of Rockwell International to the 8/18/87 Information Request	David Nash - Rockwell	Ruth Mancos - USEPA	Correspondence
4	87	09/22	Pertinent facts to Laskin/Poplar as it relates to Locke Machine Co.	David Larcher - Locke Machine Co.	Ruth Mancos - USEPA	Correspondence
5	87	09/22	EPI Response to Notice Letter	Dukolan - EPI	AMancos - USEPA	Correspondence
45	87	09/22	Response to USEPA connes. dated 8/18/87 with enclosure documents	Ralph Biggs - Litton Great Lakes	B.Constantelos - USEPA	Correspondence
3	87	09/22	Natlack, Inc. response to USEPA Information Request.	K.Kowalski-Squires, Sanders & Gessey	Ruth Mancos-USEPA	Correspondence
4	87	09/22	Conrail Response to Request for Information	KKowalski - Atty for Conrail	AMancos - USEPA	Correspondence
4	87	09/22	MCI Response to Request for Information about Poplar Laskin Oil Site	KKowalski - Atty for MCI	AMancos - USEPA	Correspondence
5	87	09/22	Anchor Motor Freight's Response to Request for Information	KKowalski - Atty for Anchor Motor	AMancos - USEPA	Correspondence
32	87	09/22	Response to Information Request By Pittsburgh & Conneaut Dock Co.	J.Klein-Reed, Smith, et al.	Ruth Mancos - USEPA	Correspondence
2	87	09/24	Response to 8/25/87 USEPA Information request.	David Jacobson - Perfection Corp.	Ruth Mancos - USEPA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Lasson/Dollar Oil  
Akron, Ohio

INDEX PAGE DATE	TITLE	AUTHOR	RECIPIENT	DOCUMENT TYPE
5 87/09/24	Citizen Response to Request for Information	Donahue - Atty for Chevron	Ryanco - USEPA	Correspondence
1 87/09/25	Sevada Motors response to information request and request for confidentiality	Ryanco - USEPA	Donahue - USEPA	Response
2 87/09/25	Kalich, Inc. inadvertently omitted affidavit to the response to Request for information submitted on 9/22/87.	Donahue, Sean, LHM&S&C, Inc.	Ryanco - USEPA	Correspondence
94 87/09/25	Interlake Stevedoring response to inquiries made in letter dated 9/13/87	Tomlinson - Ryanco's father	Ryanco - USEPA	Correspondence
2 87/09/29	Rec'd of telcon with BSHW re Land Disposal Restriction	Donahue - USEPA		Documentation Records
1 87/09/29	Letter from Nathan Counsel reflecting disappointment in the USEPA listing of waste amounts on a "mere" volumetric basis.	Donahue - Atty for Nathan	Thomas Bariball - USEPA	Correspondence
1 87/09/30	Complaint of EPA's listing of volume only and not types of substances sent	Nathan Counsel - Atty for Anchor Motor	Thomas Bariball - USEPA	Correspondence
1 87/09/30	Complaint regarding volume only listing of wastes	KPMG, Sisk - Atty for Conrail	Thomas Bariball - USEPA	Correspondence
1 87/09/30	Request to delete double listing of MCI on pop volume listing and complaint about mere volume listing instead of type of material	KPMG, Sisk - Atty for MCI	Thomas Bariball - USEPA	Correspondence
4 87/09/30	K-Mart Response to Request for Information	FAST, Lerner - K-Mart	Ryanco - USEPA	Correspondence
44 87/09/30	Record of Decision (ROD)	USEPA		Memoranda
1 87/10/06	Chevron Response to	Donahue - Chevron	Ryanco - USEPA	Correspondence

ADMINISTRATIVE RECORD INDEX  
Laskin/Sister Oil  
Astrakula, Ohio

INDEX PAGE DATE	TITLE	REMARKS	REMARKS
2 8/10/83	Request for Information USOCQ Response to Request for Information	USOCQ - USOCQ	USOCQ - USOCQ
11 8/10/83	American Cyanamid Response to Request for Information	American Cyanamid	USOCQ - USOCQ
4 8/10/83	Response of J & P Oil to Request for Information	USOCQ - USOCQ	USOCQ - USOCQ
24 8/10/83	Information Request Request to USOCQ and for Information	USOCQ - USOCQ	USOCQ - USOCQ
25 8/10/83	Request USOCQ Response to Request for Information	USOCQ - USOCQ	USOCQ - USOCQ
3 8/10/83	USOCQ Response to Request for Information	USOCQ - USOCQ	USOCQ - USOCQ
6 8/10/83	USOCQ Response to Request for Information	USOCQ - USOCQ	USOCQ - USOCQ

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**Abstract**

**Abstract**

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## REPORT SUMMARY

1. *Phragmites* (Common Reed)

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# **RESPONSIVENESS SUMMARY**

**LASKIN POPLAR OIL SITE**  
Jefferson, Ohio

**U.S. EPA**

June 16, 1989

RESPONSIVENESS SUMMARY  
LASKIN POPLAR OIL SITE, JEFFERSON, OHIO

INTRODUCTION

The U.S. Environmental Protection Agency (U.S. EPA) has gathered information on the types and extent of contamination, evaluated remedial measures, and recommended remedial actions at the Laskin Poplar Oil site. Several public meetings were held to explain the intent of the project, describe the results, and receive comments from the public. Public participation in Superfund projects is required in the National Oil and Hazardous Substances Contingency Plan (NCP). Comments received from the public are considered in the selection of the remedial action for the site. This document summarizes the comments received regarding the proposed final remedy and describes how they were incorporated into the decisionmaking process.

The community relations responsiveness summary has five sections:

- o Overview discusses U.S. EPA's recommended alternative for remedy of exposure to contaminated material at the Laskin Poplar Oil site.
- o Background on Community Involvement and Concerns provides a brief history of community interest and concerns raised during remedial planning activities at the site.
- o Public Comments Received during Public Comment Period summarizes both oral and written comments received from the community and U.S. EPA's responses grouped by the following topics: general comments, recommended alternative comments, and incinerator comments.
- o Potential Responsible Party Comments summarizes comments received from the PRPs and U.S. EPA's responses.

- o Ohio EPA Comments and U.S. EPA Responses summarizes comments received from Ohio EPA and U.S. EPA's responses.

In addition, Attachment A identifies the community relations activities conducted by U.S. EPA during the remedial response activities at the site. Attachment B is the revised Figure 4-8 from the Feasibility Study report. Attachment C is a letter from U.S. EPA to Ohio EPA explaining its rationale for selecting Alternative 3A.

The detailed transcript of the Feasibility Study public meeting and the written comments are not included, but they are available for public inspection from U.S. EPA, Region V, in Chicago. Copies are also available in the Administrative Record at the following repositories:

Ashtabula County Disasters Services Offices  
Ashtabula County Court House  
25 West Jefferson Street  
Jefferson, Ohio 44047  
216/997-9341

Ashtabula County District Library  
335 West 44th Street  
Ashtabula, Ohio 44004  
216/576-9148

### OVERVIEW

During the public comment period, the U.S. EPA presented eight alternatives to remediate the potential for exposure to contaminated groundwater and soil at the Laskin Poplar Oil site and also a no-action alternative. The EPA recommended capping the contaminated soil and installing a groundwater diversion trench around the contaminated soil. The cap and the trench would prevent water from filtering through the contaminated soil. All dioxin-contaminated materials amenable to thermal treatment would be incinerated; the rest would be disposed of beneath the cap in a concrete vault.



The public comments received were generally supportive of EPA's recommendation. Most of the comments received at the public hearing pertained to operation of the incinerator. Some concern was expressed about the ability of the incinerator to safely and effectively destroy material contaminated with PCBs and dioxin. Most of the discussion about the incinerator, however, concerned the monitoring of stack emissions and reporting the test results to the interested public.

#### BACKGROUND ON COMMUNITY INVOLVEMENT AND CONCERNS

Community involvement in this project began in 1974 when residents living near the site began complaining to the site owner and local officials about bad odors resulting from the firing of the boilers and from the onsite ponds and pits. In July 1978, concerned citizens submitted a complaint to Ohio EPA requesting that operations at the site cease. From 1978 to 1980, residents sought to stop the oil recycling activities of the Laskin Poplar Oil Company and became involved in several local court cases. In 1980, local residents formed a citizens' group called the Committee for Clean Environment. The purpose of the group was to monitor events at the site and to work for quick remediation by local and state governments of site-related problems. Their efforts succeeded in 1981 when the Ashtabula County Court of Common Pleas issued a court order banning oil recycling activities by the Laskin Poplar Oil Company.

In 1983, the U.S. EPA placed the site on the National Priorities List (NPL). Local residents attended a public hearing that described the remedial investigation (RI) process, and they and officials contributed to the formulation of the community relations plan (CRP). In August 1987, area residents attended an availability session to discuss onsite progress with U.S. EPA staff. Later that month, area residents attended a public meeting to comment on the feasibility study for the source material removal operable unit. In March 1989 a number of residents and local officials were contacted to update the CRP. In April 1989, residents attended a public meeting concerning U.S. EPA's recommended remedial action.

Citizen interest and involvement has been mobilized largely through the efforts of a few individuals, particularly Mr. Vern Hall. Mr. Hall, a Jefferson Township Trustee, acts as a key contact for exchange of information on the site in the Jefferson community.

Throughout the RI/FS process, the public expressed these concerns:

- o Health issues related to the pathways of possible exposure to contaminants during the period of Laskin's operation. These include exposure to the burning of PCB contaminated oil and exposure to dioxin.
- o Health issues related to potential exposure to contaminants associated with the site.
- o The amount of time U.S. EPA has spent conducting the RI/FS. Residents have expressed frustration over the length of time the RI/FS has taken to complete. The community has been concerned about the site since the late 1970s and some residents wonder why remediation has not been expedited.
- o The frequency of information distributed to the community. Receiving accurate information about the EPA's activities at the site is a major concern of local residents. Residents have found the fact sheets and availability sessions are a good technique for providing information to the community. Residents have expressed a strong interest in the proposed incinerator. Some residents have suggested that a fact sheet describing the operation and monitoring procedures for the incinerator should be distributed to the community.
- o The operation of the incinerator, including incinerator byproducts, length of operation, and frequency of emission tests.

- o Use of local contractors during remedial action. A state government official indicated that local contractors should be used as much as possible in the remedial action work. It was felt that the use of local contractors was important to all county residents.

PUBLIC COMMENTS RECEIVED DURING PUBLIC  
COMMENT PERIOD AND U.S. EPA RESPONSES

This responsiveness summary addresses both oral and written comments received by the U.S. EPA concerning the RI/FS for the Laskin Poplar Oil site. The comment period was held from April 12 to May 12, 1989. A public meeting was held on April 26 at the Ashtabula County Courthouse to allow the public to present oral and written comments.

GENERAL COMMENTS

1. Mr. Gordon Housel had questions regarding the effect of the cleanup on the summer fair. His questions pertained to:
  - o The ability of people to park on Laskin's property during the fair
  - o The starting date for onsite cleanup activities
  - o The level of activity during Fair Week and the rest of the summer

U.S. EPA's Response: No incineration will take place this summer. If demolition work occurs this summer, the community relations coordinator (CRC) for the site will work closely with fair officials to minimize any adverse effects on the fair. U.S. EPA has no authority to prohibit vehicles from parking on the southeast corner of the Laskin property during the fair unless parking interferes with the remedial work.

2. Ms. Margaret Schossler and Mr. Ray Saporito had questions regarding a cancer study done in the area. They asked:
- o For a clarification between a risk assessment and a cancer study
  - o When the study was conducted
  - o The scope of the study

U.S. EPA's Response: As part of the RI/FS process, two different assessments were performed to determine the impacts of the onsite contaminants on the community. The first assessment, a risk assessment, was performed by consultants during the RI to evaluate the potential for adverse effects to public health or the environment if no remedial action were taken beyond the scheduled pit, tank, and soil removal (Source Removal Operable Unit remedial action). The risk assessment identified ways that people or wildlife could be exposed to contaminants from the site and evaluated potential exposure settings for existing and possible future site uses. Under existing site conditions, exposure may occur if people have direct contact with exposed contaminants in the surface soil, surface water, sediments, and structures on the site. Risks were also evaluated for the future site use setting of residential development of the site. Exposures that may be of concern if such development occurs include exposure of construction workers to contaminated subsurface materials, and exposure of future residents to contaminants present in the shallow groundwater if it is used as a water supply. Exposure to contaminants was evaluated for both carcinogenic and noncarcinogenic health effects. The risks from onsite exposure and future site use are summarized in Table 1-2 of the FS report.

The second assessment performed was a health assessment. The health assessment was performed by the Agency for Toxic Substances and Disease Registry (ASTDR). A health assessment examines a population's level of exposure to contaminants through environmental and human exposure pathways; i.e., ingestion of groundwater, surface water, and soil. The data used by ASTDR in their health assessment were taken from the RI conducted in 1986. Unlike a risk assessment, a health assessment does not consider future uses of the site in determining the effects of the contaminants on a population's health. The health assessment is concerned only with a population's historic exposure to onsite contaminants through exposure pathways. If the health assessment reveals that a population has been exposed to the onsite contaminants through environmental and human exposure pathways, a health study is usually done. During the health study, the local population undergoes a number of medical tests to determine the possible effects of the contaminants on their health. A cancer study is one possible study within a health study. Because local residents have not been exposed to the contaminants on the Laskin site through such exposure pathways as groundwater, surface water, and ingesting soil, the ASTDR determined there was no need to conduct a health study. A copy of ASTDR's health assessment is located in local repositories.

3. Mr. Alvin Laskin indicated that the PRPs are not going to pay for the cleanup. He stated that they will add the cleanup cost to the cost of their products and the public will pay the price.

**U.S. EPA's Response:** PRPs may raise the cost of their products to pay for the cost of the remedial action; however, U.S. EPA has no way of knowing whether that will happen. U.S. EPA's responsibility under CERCLA is to identify the PRPs and obtain compensation from them to pay for

the necessary remedial action. U.S. EPA has no control over the source of funds PRPs use to pay for remedial action work.

4. Mr. Gene Trhlin inquired whether U.S. EPA has sufficient funding to police the PRPs and enforce its proposed alternative.

U.S. EPA's Response: Under the Superfund Amendments and Reauthorization Act (SARA), U.S. EPA can obtain oversight costs from the PRPs. If a negotiated settlement with the PRPs fails, U.S. EPA can proceed with the remedial action and use the courts to recover the remedial action costs from the PRPs; or it can seek administrative or judicial orders requiring the PRPs to perform the remedy. During the course of the PRP remedial design and action, U.S. EPA will do whatever is necessary to monitor and verify the progress of the PRPs' remedial actions. Funding and contractor assistance are available for oversight, and the state of Ohio may also be active in this area.

5. Mr. Gene Trhlin also asked whether the EPA representatives knew of any action being taken to prevent oil spills such as the one in Alaska.

U.S. EPA's Response: The U.S. EPA does not wish to respond to comments on the Alaskan oil spill since it is not related to the Laskin Poplar Oil cleanup.

6. Ms. Margaret Schossler expressed a concern that, with big contracts such as this one, the activities that are promised to be done are never done.

U.S. EPA's Response: The recommendations made in the ROD and other pertinent documents will be followed in completing the remedial work onsite. During the course of the remedial action there may be minor modifications to the recommended

activities, but the character of the cleanup cannot change substantially without giving the public an opportunity to comment on the changes. The schedules of activities for this project are available to the public at the local repositories. If anyone feels that the cleanup is not proceeding according to the plan, the CRC or the RPM should be contacted to resolve the problem.

7. Mr. Alvin Laskin stated that he videotaped a 250,000-gallon discharge of oil into Cemetery Creek from a dike that had been weakened from digging done by U.S. EPA.

U.S. EPA's Response: In the process of working on the dike, there was a discharge of oil into Cemetery Creek. The action is viewed as a spill, not an intentional discharge.

8. Mr. Alvin Laskin stated that the EPA has approved the burning of oil containing up to 50 parts per million of PCBs by a greenhouse in Massachusetts.

U.S. EPA's Response: The Massachusetts oil site is a completely different situation. The Massachusetts greenhouse is burning PCB-contaminated oil at a temperature that destroys the PCBs. Laskin's boilers operated at considerably lower temperatures, and sampling indicates that he burned oil with much higher levels of PCBs.

9. Leaseway Transportation Corporation stated that Alternative 6, the state's recommended remedial action, will yield no enhanced protection and could cost more than four times that of Alternative 3A, the recommended remedial action, and take twice as long to complete. Leaseway further stated that because of the time required to complete Alternative 6, local residents and the environment may actually be exposed to more hazardous constituents than under Alternative 3A.

U.S. EPA's Response: Alternative 6 would eliminate the need for long-term management of the site. However, it as well as Alternative 3A would provide adequate protection of human health and the environment. Because of the cost of Alternative 6 and the potential adverse impacts on the community over its 4-year implementation period, it has been judged by U.S. EPA to be less desirable than Alternative 3A.

#### COMMENTS ON THE RECOMMENDED ALTERNATIVE

1. Mr. Charles Long expressed his support for the recommended alternative. He asked whether the freshwater pond and retention pond would be drained and filled and where the dirt to fill the pond would be found.

U.S. EPA's Response: Under the recommended alternative, both the freshwater pond and the retention pond will be drained and filled. Some of the soil used to fill the ponds may be found onsite. In the event that onsite soil is incapable of filling both ponds, clean fill will be imported.

2. Mr. Gene Trhlin asked about the depth of the groundwater diversion trench, its purpose, and the purpose of the cap.

U.S. EPA's Response: The groundwater diversion trench will be 25 to 40 feet deep and will prevent groundwater that is flowing north to Cemetery Creek from flowing into the site and coming into contact with the contaminated soil. The proposed multilayered cap will cover approximately 3.5 acres and will virtually prevent water (rain, snowmelt) from filtering through to the contaminated soil beneath the cap.

3. Mr. Alvin Laskin said it appeared that the groundwater diversion trench would destroy the front of his house.



U.S. EPA's Response: The construction of the underground trench proposed under the plan should not disturb Mr. Laskin's house.

4. Mr. Gene Trhlin had questions regarding the cost of the remedial alternative. His questions pertained to:

- o The method used to determine the cost
- o Cleanup activities included in the cost
- o The method used to award contracts for remedial action

U.S. EPA's Response: The estimated cost of this project is based largely on existing contracts from other Superfund sites. The cost of this project includes the total range of construction activities required to complete the remedial action, and the cost estimates were made based on the assumption that U.S. EPA would perform the remedial action at the site. The incinerator is a large part of the cost. Also included in the cost are activities such as earthmoving and well drilling and material costs for items such as the fill and synthetic material in the cap. As a U.S. EPA project, any remedial action contracts associated with this project will be let to the lowest responsive and responsible bidder. If the PRPs perform the remedial action they are not required to award the contracts to the lowest bidder; however, they may choose to do so.

5. Ms. Martha Demshar expressed concern about children gaining access to the site and asked what type of fencing would be used onsite and the extent of the site that would be fenced.

U.S. EPA's Response: The current proposal includes a 6-foot-high cyclone fence topped with barbed wire located around the perimeter of the

property. Signs on the fence will identify the property as a Superfund site.

6. Mr. Ray Sapporito supported EPA's recommendation as long as the project oversight that was described actually takes place.

U.S. EPA's Response: From the design phase through completion of construction and during monitoring, U.S. EPA and its representatives will oversee all remedial action work.

7. Mr. Vern Hall expressed a preference for removing all contaminants onsite as recommended under Alternative 6, but added that Alternative 3A is the most economically feasible alternative, the least disruptive to the community, and it has the least potential for further environmental damage.

U.S. EPA's Response: Alternative 3A is the recommended remedy because it will minimize and mitigate threats to public health and welfare and the environment. The recommended alternative provides adequate protection of public health and the environment, and the shorter period of incineration will have less short-term impact on the community than Alternative 6. In addition, Alternative 3A will provide this protection at a substantially lower cost, making the selected remedy more cost-effective than Alternative 6.

8. Leaseway Transportation Corporation supports the selection of Alternative 3A because of the expedient way it prevents contaminants from migrating offsite in a manner that was consistent with all obligatory criteria of the National Contingency Plan (except state acceptance). Leaseway questioned the need for a multilayered engineered cap in Alternative 3A. They asked whether a solution less extravagant than a multilayered cap but more effective than 2 feet of soil could be used without jeopardizing the alternative's effectiveness.

U.S. EPA's Response: U.S. EPA acknowledges the support for its recommended remedy. An engineered cap is more reliable than a soil cover because it is thicker and because the synthetic barrier would provide visual indication of whether the cap has been breached or exposed. In addition, the multilayered cap virtually eliminates the potential for surface water to move through the soil and come into contact with the contaminated material and generate contaminated groundwater.

#### COMMENTS ON THE INCINERATOR

1. Mr. Vern Hall and Ms. Margaret Schossler had questions regarding the material to be incinerated and the byproducts of incineration. The questions pertained to:

- o The type of pollutants to be incinerated
- o The byproducts of incineration (dioxin, ash)
- o Pollution control measures on the incinerator
- o The toxicity of the byproducts

U.S. EPA's Response: Under the recommended alternative, an incinerator would burn soil and ash from the boiler house. The materials being incinerated are contaminated with PCBs, dioxin, and other contaminants. The end products of incineration are ash and flue gases. It is difficult to predict the composition of the ash, but it will be tested regularly to ensure that it does not contain unacceptable levels of contaminants. If the ash contains unacceptable levels of contaminants it will either be re-incinerated or treated as a hazardous waste and disposed of in an offsite licensed hazardous waste facility. The dioxins should be completely incinerated. Although dioxins are formed by the incomplete combustion of PCBs, the proposed incinerator has the capability to destroy dioxin. To control air emissions, the incinerator will be equipped with a number of pollution control

devices including a particulate scrubber that captures particulates, acid gases, and metals.

2. Ms. Margaret Schossler asked about the ownership of the incinerator to be used in the remedial action and the role of the PRPs in incineration.

U.S. EPA's Response: The incinerator proposed for this project will be owned by the remedial action contractor. Its design will be examined and approved by U.S. EPA before it is allowed to begin operation. The incinerator will come from a manufacturer, and is not U.S. EPA's incinerator.

The PRPs are under a U.S. EPA administrative order to conduct the operable unit incineration and as such are responsible for hiring a remedial action contractor to perform the incineration. There is as yet no resolution of whether PRPs or U.S. EPA will conduct the final remedial action. It is U.S. EPA's intent to have the PRPs conduct the final site remedial action, including incineration, in which case the same incinerator used for the Source Removal Operable Unit could be used.

3. Mr. Ray Saporito said that his readings of research on PCB incineration indicated that effective PCB destruction through incineration is possible if the burn temperatures are hot enough.

U.S. EPA's Response: PCBs can be destroyed effectively through incineration if the incinerators are built and operated according to specifications that include the proper temperatures and residence time.

4. Ms. Margaret Schossler felt that incinerators were incapable of burning at a temperature high enough to destroy PCBs.

U.S. EPA's Response: Dioxins can be formed as a result of low temperature burning of PCBs. If

temperatures are not high enough there is the potential for the formation of dioxin. The EPA is aware of this and will prevent this phenomenon from occurring by requiring an incinerator capable of producing temperatures sufficient to destroy PCBs and by requiring a test burn and process controls that ensure the incinerator meets regulatory standards.

5. Ms. Margaret Schossler, Mr. Gabe Demshar, and Mr. Vern Hall had questions regarding monitoring incinerator emissions and reporting laboratory results of emission tests. Their questions pertained to:

- o The people responsible for onsite monitoring of incinerator emissions
- o The frequency and duration of monitoring and inspection activities
- o The responsibility of hiring a laboratory to test emissions
- o The ratio of onsite to offsite analyses
- o The availability of test results for public inspection
- o The turnaround time on emission tests
- o The frequency of test burns and their role in determining standards for normal operation
- o The air sampling plan

U.S. EPA's Response: Before full operation of the incinerator, a test burn will be done to establish the operation parameters. When the incinerator is operating full time, its emissions and operational parameters will be monitored regularly to ensure that the incinerator meets the standards set in the test burn. Although the onsite

monitoring will be done by the remedial action contractor and not U.S. EPA, U.S. EPA staff or its representatives will regularly monitor the results of the contractor performing the emission tests. The frequency of the tests depends on the sample being tested. Some parameters require continuous monitoring, whereas other parameters require less frequent monitoring. Some of the tests will be performed at the onsite laboratory. Other tests will be performed in offsite laboratories. Some parameters will be monitored by equipment installed on the incinerator. The test results for the various samples can be placed periodically in the local repositories. The parameters to be tested for and the testing procedures will be documented in a Quality Assurance Project Plan that will be developed and approved before actual testing.

6. Mr. Vern Hall and Ms. Margaret Schossler asked about the length of time the incinerator would operate and its noise level.

U.S. EPA's Response: It will take approximately 3 months to incinerate the dioxin-contaminated materials onsite. As part of the source removal operable unit, the incineration will take approximately 8 months. It is important to note that incineration times are not additive. If incineration under the Source Removal Operable Unit remediation and the final remedy are combined, the incineration time for all the material in both operable units will be approximately 10 months. Once the permits are secured for operating the incinerator and the test burns are completed, the incinerator will operate 24 hours a day. The incinerator will be equipped with devices that lessen the noise.

7. Ms. Margaret Schossler stated that hazardous waste incineration is riddled with unknowns and that U.S. EPA's oversight of hazardous waste incineration has been inadequate. She also said

that the risks to health and the environment of a community that has an incinerator has risen. She stated that incineration is a controlled and officially sanctioned toxic waste leak through stack emissions and ash disposal.

U.S. EPA's Response: By law, the Superfund program is mandated to protect human health and the environment in selecting a cleanup strategy. The incineration planned for this site has been proven effective in other locations. U.S. EPA will monitor every phase of the incineration process from the design phase to emission tests when the incinerator is fully operational to ensure that the standards are being met. With the stringent controls and oversight U.S. EPA maintains in the incineration process, the health of the community and the environment will be protected.

8. Mr. Gene Trhlin stated that incineration is the lesser of two evils we have to accept until there is better technology.

U.S. EPA's Response: Incineration is the most effective means of destroying the contaminants present at the site. Incineration is a proven technology and when done according to our specifications the community's health and the environment are protected.

9. Mr. Vern Hall recommended that the incinerator's emission test results be posted at the Ashtabula County Disaster Services Office.

U.S. EPA's Response: Since the Ashtabula County Disaster Services Office functions as a local repository, emission test results can be placed there periodically.

PRP COMMENTS RECEIVED DURING THE PUBLIC COMMENT  
PERIOD AND U.S. EPA RESPONSES

This section addresses the written comments submitted on behalf of the PRPs during the comment period. A copy of the comments received are available from U.S. EPA, Region V. The comments in this section were submitted by:

- o Freedman, Levy, Kroll & Simonds, Counsellors at Law, on behalf of Perfection Corporation
- o Squire, Sanders & Dempsey, Counsellors at Law, on behalf of Ashland Oil, Inc., Cleveland Electric Illuminating Company, Consolidated Rail Corporation, White Consolidated Industries, Inc. (including its Copes-Vulcan and former R-P&C Valve Divisions), Shell Oil Company, Mobil Oil Corporation, Sun Refining and Marketing Company, Inc., Matlack, Inc., and Anchor Motor Freight, Inc.
- o Fuller & Henry, Counsellors at Law, and Engineering-Science, Inc. on behalf of the Laskin Task Force

In addition to the comments listed below, the firm of Freedman, Levy, Kroll & Simonds also submitted comments concerning the Phased Feasibility Study of August 1987. Those comments and U.S. EPA's responses are found in the Responsiveness Summary that followed the Phased Feasibility Study and will not be repeated here.

1. Freedman, Levy, Kroll & Simonds stated that U.S. EPA has inappropriately named Perfection in a CERCLA 106 Order and certain liable parties have inappropriately sued Perfection in a third-party action.

U.S. EPA's Response: The question of Perfection Corporation's status as a PRP and being named in a 106 Order are not factors in the choice of remediation action. These legal matters are under



consideration by U.S. EPA Regional Counsel or are the subject of ongoing litigation.

2. Freedman, Levy, Kroll & Simonds stated that U.S. EPA's heavy reliance on thermal treatment in the remedial action is not justified. The expensive thermal treatment recommended by U.S. EPA has increased the total cleanup cost to a level in excess of what is necessary to protect public health.

U.S. EPA's Response: U.S. EPA studied nine alternatives before selecting the recommended remedial action. Within the nine alternatives the level of treatment varied. Some alternatives had no provision for treatment while others made it a major component of the cleanup process. In the process of selecting the recommended remedial action, U.S. EPA did not focus solely on the cost of the alternative. The alternative's cost was only one of nine criteria considered. After each alternative was evaluated for the nine criteria, Alternative 3A was selected as the remedial action because it represented the best balance among the evaluation criteria. Alternative 3A will incinerate the least amount of contaminated material of the four alternatives that relied on incineration.

3. Squire, Sanders & Dempsey, and Freedman, Levy, Kroll & Simonds stated several concerns about U.S. EPA's ability to perform remedial action at the Laskin site. They are:

- o U.S. EPA may only perform remedial action at the Laskin site if that action is necessary as a result of a release or threatened release of hazardous substances
- o The fact that petroleum and its constituents are not hazardous substances means that U.S. EPA cannot use Superfund monies to respond to releases of petroleum.

- o The feasibility study does not distinguish petroleum from hazardous substances, and thus fails to indicate whether any potential Agency remedial action would be authorized by law.

U.S. EPA's Response: It is clear that there have been releases and threats of releases of hazardous substances at and from the site. Whether those substances are mixed with petroleum products has no bearing on the obligation and authority of the U.S. EPA to respond to such threats or require others to do so. The scope of the petroleum exclusion is, as this commenter is aware, the subject of litigation pending in the Northern District of Ohio. The U.S. EPA believes the FS correctly addressed the types and effects of the hazardous substances present at the site.

- 4. Freedman, Levy, Kroll & Simonds stated that U.S. EPA's "land ban" concerns may have been based on erroneous constructions of the law and U.S. EPA has never satisfactorily explained how it has reached its conclusions. The commenter did not specify the nature of the "erroneous constructions" of the "land ban" law.

U.S. EPA's Response: The applicability of the land ban is based on U.S. EPA's interpretation that when wastes from different units are put into one unit, placement of hazardous waste has occurred, thus triggering the restrictions. The tanks are clearly separate units from the pits or whatever other area that could be chosen for consolidation.

- 5. The Laskin Task Force and Freedman, Levy, Kroll & Simonds stated that if U.S. EPA selects Alternative 3A, the source removal operable unit and the final remedy should be combined.

U.S. EPA's Response: U.S. EPA would like to combine the source removal operable unit and the final remedy in an effort to reduce the total cost of the remedial action, to reduce the impact on the community, and to accelerate the cleanup required under the Source Removal Operable Unit remedial action.

6. Freedman, Levy, Kroll & Simonds stated that U.S. EPA and the PRPs should reach a settlement on this site by focusing on a settlement in a coordinated fashion.

U.S. EPA's Response: It is in the public's best interest to reach a rational and integrated settlement at the site and U.S. EPA is actively pursuing this. The scope and form of a settlement are not issues that need to be addressed in connection with the ROD.

7. Squire, Sanders & Dempsey stated that, to the extent that U.S. EPA's proposed remedial action purports to be based on the need to address problems presented by PCBs and certain other hazardous substances, the PRPs should not be held liable for such costs because they sent no materials aside from petroleum.

U.S. EPA's Response: Issues of PRP liability are not properly addressed in connection with the ROD.

8. Squire, Sanders & Dempsey stated that U.S. EPA must consider all phases of remediation at the site in determining the overall cost effectiveness of the remediation. Since the final proposed remediation included capping, the FS should have considered whether the use of a cap could eliminate the need for heat treatment, thereby lowering the total cost of remediation at the site.

U.S. EPA's Response: The FS determined that capping the contaminated area of the site would

not reduce the toxicity, mobility, and volume of the dioxin-contaminated material. Under SARA, there is a preference for selecting alternatives that include treatment. This is particularly important when dealing with dioxin because of its high toxicity. Alternative 3A provides a balance where certain contaminated materials are treated and others are contained in a cost-effective manner that protects human health and the environment.

The Source Removal Operable Unit remedy was selected before the final remedy, consistent with Section 300.68(c) of the National Contingency Plan (November 20, 1985), which states that operable unit implementation may begin before selection of an appropriate final remedial action if such measures are cost-effective and consistent with the permanent remedy. The findings of cost-effectiveness and consistency with the permanent remedy were made for the Source Removal Operable Unit in the ROD for that remedy selection dated September 30, 1987.

Hazardous waste landfill capping was considered in the operable unit remedy selection and was determined an inappropriate remedial action for these materials given the CERCLA Section 121 preference for remedial actions that include treatment that permanently and significantly reduce volume, toxicity, or mobility of hazardous substances and concerns about the long-term effectiveness of capping to contain these materials. It was in the judgment of the U.S. EPA that, since the soils to be remediated under the Source Removal Operable Unit remedial action are saturated, the nonaqueous liquid hazardous material contained in the soil would still have the potential to migrate even after the site is dewatered.

The final remedy, which includes placement of a hazardous waste landfill cap over the remaining

site contaminated soils, is consistent with the Source Removal Operable Unit remedy selection and does not render that remedial action not cost-effective.

9. The Laskin Task Force and Squire, Sanders & Dempsey acknowledge Alternative 3A's superiority to Alternatives 4, 5, and 6 with respect to cost effectiveness, implementability, and protection of the environment and human health.

U.S. EPA's Response: U.S. EPA acknowledges support for its recommendation.

10. The Laskin Task Force and Squire, Sanders & Dempsey stated that the dioxin vault should be placed in a location that will minimize disturbance or damage to the site, including the cap, if future dioxin removal or treatment is necessary.

U.S. EPA's Response: The final location of the dioxin vault will be determined during remedial design. The vault will be located to minimize disruption to the cap and provide protection to the public during the temporary storage of the dioxin-contaminated material.

11. Squire, Sanders & Dempsey stated that the proposed remediation of the retention pond and drainage of the freshwater pond, two areas considered uncontaminated by U.S. EPA, unnecessarily increase the total project cost.

U.S. EPA's Response: The retention pond and the freshwater pond are being filled because they act as recharge areas for the groundwater onsite and they are in direct conflict with the cap. Filling the ponds will help lower the groundwater table onsite, reducing the amount of water that passes through the contaminated soil.

12. Squire, Sanders & Dempsey stated that U.S. EPA cannot support its proposed remedial action for the source control operable unit with a risk assessment that is inaccurate and incomplete.

U.S. EPA's Response: This comment has been answered in the Responsiveness Summary for the 1987 phased feasibility study.

13. Squire, Sanders & Dempsey stated several concerns about the feasibility study's assumptions about dioxin contamination and the proposed remedy. They are:

- o The assumption that the entire boiler house structure is contaminated and that the soil is contaminated to a depth of 3 feet is inappropriate.
- o The feasibility study provides no valid basis for the selected dioxin remedy.
- o There is no need to segregate the dioxin-contaminated material and other matter. U.S. EPA should consolidate the boiler house equipment under the cap.

U.S. EPA's Response: Sufficient information was gathered during the RI to compare alternatives in the FS and choose a remedy in the Record of Decision. In addition, dioxins were found in the soil floor of the boiler house, in the boilers, and in the ash from the smokestack. With documented dioxin contamination this widespread, it was felt that other parts of the boiler house were also contaminated and the decision was made to incinerate the entire structure. While it is true that the FS did assume the boiler floor was contaminated to a depth of 3 feet, that assumption was viewed as a conservative estimate. Additional data must be collected during the remedial design to refine the extent of dioxin contamination.

These data will then precisely define the soil that needs to be incinerated.

The site-specific remedial action goals for the boiler house soil and ash are identical to those for the other onsite soil, but because of the presence of highly toxic dioxins they are not grouped with the other soil. Dioxin-contaminated materials must conform to special treatment and disposal requirements (i.e., destruction and removal efficiencies). Keeping the dioxin-contaminated materials separate will allow for the ultimate disposal of materials that cannot be thermally treated or decontaminated.

14. Squire, Sanders & Dempsey stated that the heat treatment remedy for dioxin-contaminated equipment and soil may not be cost-effective if the PRP-directed cleanup of the source operable unit does not include onsite incineration.

U.S. EPA's Response: It has already been determined that incineration of the source material in the source operable unit will take place onsite.

15. Squire, Sanders & Dempsey stated that it may be unnecessary to pursue both heat treatment and the concrete vault.

U.S. EPA's Response: The concrete vault, unlike thermal treatment, is not viewed as a permanent treatment. The vault will hold dioxin-contaminated wastes that are not amenable to incineration or decontamination at this time. When the ultimate disposal of the dioxin-contaminated materials is determined by U.S. EPA, they will be removed from the vault and disposed of. Currently, there are no known commercial facilities that will accept dioxin-contaminated material for treatment or disposal.

17. Squire, Sanders & Dempsey stated that U.S. EPA has violated due process, SARA administrative procedures, and the Freedom of Information Act by failing to provide sufficient time to comment on the remedial investigation and the feasibility study.

U.S. EPA's Response: The public comment period must last a minimum of 21 days as specified under the National Contingency Plan. A 30-day comment period for the site extended from April 12 to May 12, 1989. On April 12, 1989, the U.S. EPA published announcements of the availability of the Proposed Plan and FS documents in two separate local newspapers. The U.S. EPA feels adequate time was provided for review of and comment on the feasibility study.

Furthermore, the RI report has been available for public review since December 1988. It was available at the U.S. EPA Region V offices in Chicago and in the two established public repositories near the site (Ashtabula County Disasters Services Office and the Ashtabula County District Library). A copy of the RI report could also have been obtained from the U.S. EPA.

18. The Laskin Task Force stated that the additional benefit of an interceptor trench should be evaluated after the impacts of draining and filling the ponds is assessed. The groundwater table should be monitored throughout the site remediation and the decision about the necessity of the diversion trench should be delayed until near the end of remediation.

U.S. EPA's Response: The purpose of the groundwater trench is to prevent groundwater flowing toward Cemetery Creek from coming in contact with the contaminated soil. It is true that groundwater inflow at the site is a small percentage of the base flow from the site. During the remedial design phase, after the pond



dewatering, groundwater volumes will be reassessed and the location and size of the trench will be reexamined. Current information from the site, however, indicates that the diversion trench is necessary to effectively divert upgradient groundwater to prevent that groundwater from coming into contact with contaminated soils.

19. The Laskin Task Force stated that the onsite residents should relocate to an area away from the site during construction and operation of the remedial action.

U.S. EPA's Response: Although U.S. EPA does not intend to relocate the site's residents during the remedial action, it would be to their advantage to relocate during that time and the U.S. EPA will inform them accordingly.

20. The Laskin Task Force stated that capping the contaminated soil onsite will attain the goals of protecting public health by isolating contaminated soil from possible future contact and limiting infiltration and future impacts on groundwater quality.

U.S. EPA's Response: U.S. EPA acknowledges support for its recommendation.

21. The Laskin Task Force stated that the methods for implementing the components of Alternative 3A, including choosing the location of the dioxin vault, should be described in the remedial design document, not in the Record of Decision.

U.S. EPA's Response: The feasibility study's selected alternative and the Record of Decision describe the general concept of the remedial action. The final vault location will be determined during the remedial design phase.

OHIO EPA COMMENTS RECEIVED DURING THE PUBLIC  
COMMENT PERIOD AND U.S. EPA RESPONSES

This responsiveness summary addresses the written comments submitted by the Ohio EPA during the comment period. A copy of the comments received are available at U.S. EPA, Region V, Chicago.

1. A number of comments and questions concerned the proposed cap and diversion trench. These include:
  - o Alternatives 3A, 4A, and 5A do not convincingly demonstrate that the remedy will eliminate recharge to the area of groundwater contamination under the site.
  - o In Alternative 3A, an uncapped area ranging in width from 25 feet to 50 feet will exist between the cap and the landfill. How will surface runoff from the cap and precipitation falling on that area be diverted?
  - o How will surface drainage from the capped area be tied into the diversion trench?

U.S. EPA's Response: The FS report describes the general concept and the approximate location of the cap and trench. The engineered scheme presented in the report will be designed to provide effective dewatering of the site. During remedial design, the exact locations of the cap and trench will be determined based upon design investigations. The cap will be designed to allow virtually no infiltration into the contaminated soil inside the diversion trench, as it is anticipated that there will be no uncapped area inside the diversion trench (see Attachment B). All surface runoff from the cap will be directed outside the perimeter of the trench further preventing recharge to the contaminated area.

2. How will the deed restrictions, access restrictions, and site fencing apply to the onsite resident? Also, what is the proposed location of the site fencing?

U.S. EPA's Response: The effect of the proposed institutional controls on the site residents will be to bar interference with or damage to the remedial action (i.e., excavation through the cap, installation of groundwater wells). Additional and augmented onsite fencing will be installed as part of the Source Removal Operable Unit remedial action, which is currently being designed. The location of the fence will be determined during design.

3. The following requests were made for collection of additional data:

- o Additional groundwater and surface water testing is needed before remedial design.
- o Soil samples should be taken on slope.
- o A boring should be taken in the boiler house.
- o The boiler house dimensions should be measured accurately.
- o Hydrotesting should be performed to determine the need for groundwater treatment.

U.S. EPA's Response: It is the opinion of the U.S. EPA that sufficient data collection was performed during the remedial investigation to compare alternatives in the feasibility study and choose a remedy for the site. During remedial design, additional data will be collected to ensure the proper design of the remedial action. Collection of additional data could possibly include any or all of the commenter's suggested actions. An exception would be hydrotesting. The need for hydrotesting is questioned since the

remedial action will effectively dewater the aquifer beneath the site, making treatment of site groundwater unnecessary.

4. Cross section B-B' should be added to Figure 1-4 in the feasibility study.

U.S. EPA's Response: This cross section is presented in the RI report (Figure 3-3).

5. The final feasibility study was not clear whether a specific task (i.e., preparation of a specific area for incineration) would be taken in the final RD/RA or during the Source Removal Operable Unit RD/RA.

U.S. EPA's Response: The feasibility study assumed that the final remedial action and the Source Control Operable Unit remedial action would not be conducted concurrently. However, the feasibility study did estimate that there could be a cost savings if the two remedial actions were done concurrently. It is not currently known if the site must be prepared either once or twice for incineration activities.

6. Because Alternative 6 leaves dioxins in an onsite vault, it does not meet RCRA closure performance for contaminated groundwater. Therefore this alternative cannot be considered a clean closure.

U.S. EPA's Response: When the dioxin vault is removed and the groundwater has dissipated, the site will be considered a clean closure. Until that time, short-term management of the site is required.

7. The dioxin vault does not appear to meet Resource Conservation and Recovery Act (RCRA) requirements concerning secondary containment and detection of releases.

U.S. EPA's Response: The vault will be designed to meet RCRA tank requirements (40 CFR Section 264.192), the relevant and appropriate regulations for determining the storage structure for the dioxin-contaminated waste.

8. The Uniform Relocation Assistance and Real Property Acquisition Policies Act allows FEMA to assess valuation of property if acquired as a part of the remedial action.

U.S. EPA's Response: The remedial action does not at this time include acquisition of the property. It is possible, however, that information gathered during the design of the final remedy would indicate a need to acquire the property and relocate the site residents to properly implement the remedy. If this situation arises, the U.S. EPA will follow the appropriate procedures to relocate and properly compensate the property owner.

9. Since the most protective multilayer cap is the composite design using both a geotextile material and a clay layer, it appears reasonable to import fill that would allow for the selection of the more protective technology.

U.S. EPA's Response: The multilayer cap (soil and geotextile) proposed in Alternative 3A, the selected alternative, exceeds RCRA's hydraulic conductivity criteria for closure. The additional cost of importing clay (\$300,000) was based mainly on additional transportation costs. Clay was assumed to require transportation over a greater distance. The cost differential between soil and clay could be less depending on the location of the provider. At the time of construction bidding, the cost differential between clay and soil fill could be evaluated and the clay necessary to construct a 2-foot layer in the cap could be imported in lieu of the corresponding amount of soil.

10. An east-west cross section of the proposed grading plan and a cross section showing the proposed cap in relation to the diversion trench should be provided.

U.S. EPA's Response: These cross sections will be developed during remedial design.

11. Where will contaminated soils be stockpiled while building the RCRA landfill?

U.S. EPA's Response: The recommended alternative does not include an onsite RCRA landfill. This option was eliminated from consideration due to implementability concerns, including lack of room onsite to allow stockpiling of contaminated soil during construction of a RCRA landfill.

12. Site groundwater monitoring must comply with RCRA post-closure groundwater monitoring requirements. Monitoring should include both the shallow and deep aquifers.

U.S. EPA's Response: U.S. EPA agrees with this recommendation.

13. Alternatives 2 through 5B should include deed restrictions, access restrictions, and site fencing. Alternative 6 should include deed and access restrictions and site fencing for the dioxin storage area.

U.S. EPA's Response: Table 4-3 in the FS report indicates that deed restrictions or other use or institutional restrictions will be used.

14. The no-action alternative states that risk would not increase from no action. Hypothetically, events could take place under the no-action alternative that could increase risk to receptors.

U.S. EPA's Response: The risk assessment addresses those risks with a reasonable probability of occurring. Hypothetically, many extremely low probability events not considered in the risk assessment could occur, which would increase risk at the site under no action above the risk currently described in the FS report. It should be noted, however, that the FS report describes the risk at the site as unacceptable under the no-action alternative.

15. Treatment of groundwater under Alternatives 3A, 4A, and 5A would result in a greater reduction in onsite contaminant mass than the incineration of dioxin-contaminated materials.

U.S. EPA's Response: Contaminated groundwater is not seen to pose a threat at this time because of the lack of exposure routes under current use conditions. Dewatering the site under Alternative 3A will prevent any future generation of contaminated groundwater. However, not actively remediating the dioxin-contaminated material does pose an unacceptable public health threat. The U.S. EPA agrees with the commenter's assessment, but stands by its determination that Alternative 3A is the appropriate remedy.

16. Ohio EPA's preferred alternative is Alternative 6. While subject to results of needed treatability studies, Alternative 6 seems to leave the Laskin Poplar site suitable for unlimited future use. Alternative 3A requires an indefinite period of institutional controls to be adequately protective.

U.S. EPA's Response: The U.S. EPA responded to these concerns in a letter to Richard L. Shank dated May 22, 1989 (see Attachment C).

GLT902/001.50

Attachment A  
COMMUNITY RELATIONS ACTIVITIES CONDUCTED  
AT LASKIN POPLAR OIL SITE

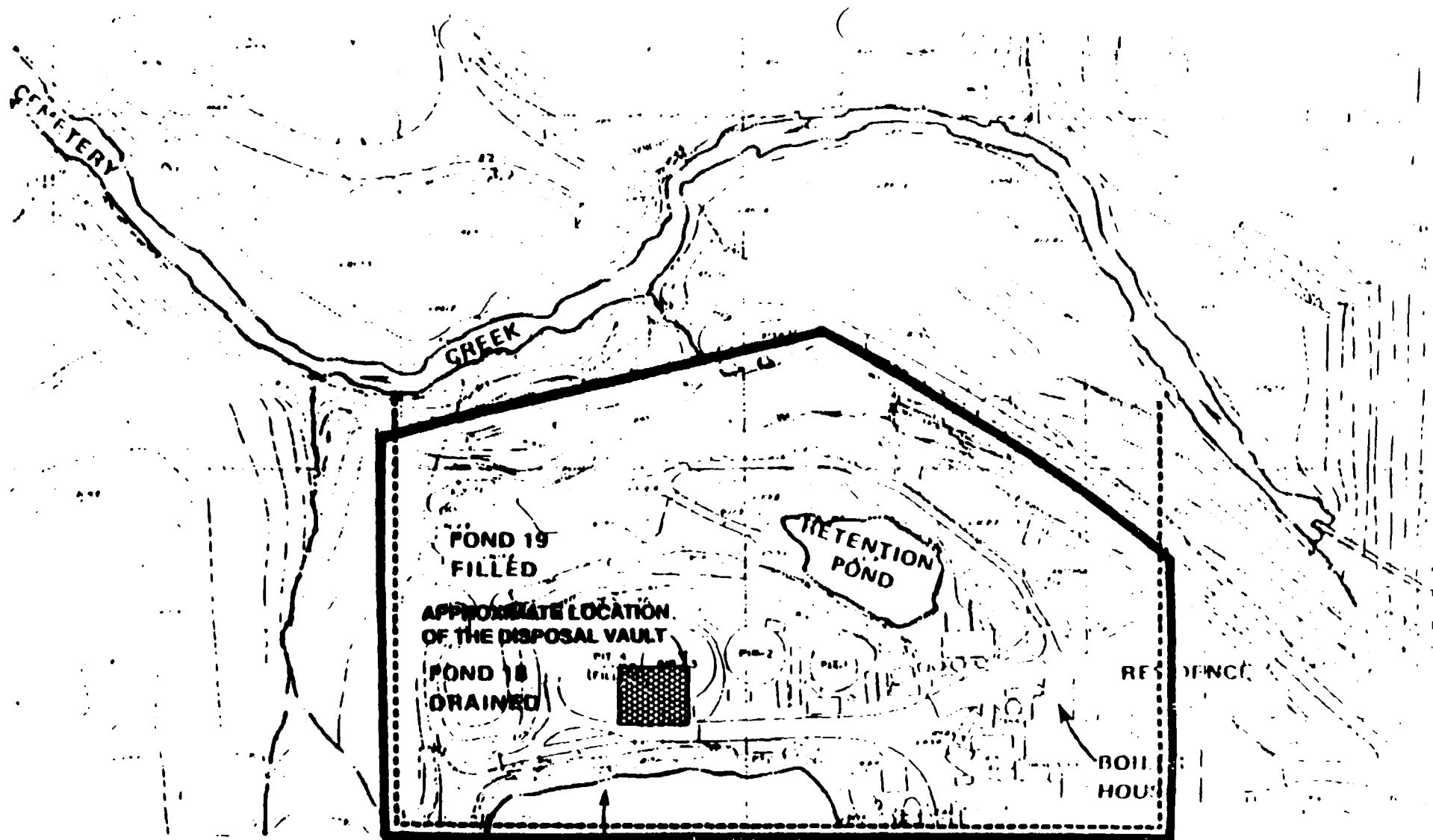


Attachment A  
COMMUNITY RELATIONS ACTIVITIES CONDUCTED  
AT LASKIN POPLAR OIL SITE

1983	Public meeting held to describe Phase I RI process.
1983	Community Relations Plan prepared
August 1987	Fact sheet prepared describing Phase II RI study and focused Feasibility Study
	Availability session held with U.S. EPA staff to discuss onsite progress
	Public meeting held to accept comments on the focused FS for the source material removal operable unit
March 1989	Community Relations Plan updated
	Fact sheet prepared describing RI findings and the scope of the sitewide FS
April 1989	Fact sheet prepared describing completed FS, alternative methods for site cleanup, and the recommended remedial action
	Public meeting held to accept comments on the sitewide FS and U.S. EPA's proposed final remedy.

GLT902/003.50

Attachment B  
FIGURE 4-8 (FEASIBILITY STUDY REPORT), REVISED

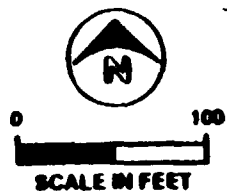


# **LEGEND**

- APPROXIMATE LOCATION OF DIVERSION TRENCH
- APPROXIMATE LIMITS OF THE CAP

**DRAINED AND FILLED FRESHWATER POND**

**NOTE:**  
FINAL LIMITS OF CAP AND LOCATION OF DIVERSION TRENCH TO BE DETERMINED DURING REMEDIAL DESIGN



REVISED (6-12-89)  
FIGURE 4-8  
ALTERNATIVE 3A  
APPROXIMATE LOCATION OF  
CAP AND DIVERSION TRENCH

Attachment C  
RATIONALE FOR SELECTION OF ALTERNATIVE 3A  
LETTER TO OHIO EPA  
MAY 22, 1989

MAY 2 1989

Richard L. Shank, Ph.D.  
Director  
Ohio Environmental Protection Agency  
P.O. Box 1049  
1800 Watermark Drive  
Columbus, Ohio 43266-0149

Dear Dr. Shank:

Thank you for your letter of April 25, 1989. I am writing to address your concerns about the proposal of Remedial Alternative 3A as the United States Environmental Protection Agency's (U.S. EPA's) preferred remedy for the Laskins/Poplar Oil site. This preferred remedy was included in the Proposed Plan, which was issued April 12, 1989. I also feel it is necessary to briefly examine the necessity of a treatability study in order to properly evaluate Remedial Alternative 6.

As you indicated, our initial review of Alternative 6 suggested the remedy might allow for unlimited future use at the site. However, upon further review, we concluded Alternative 6 would, in fact, require long-term operation and maintenance (O&M). This O&M involves on-site management of any remaining dioxin-contaminated debris and hazardous waste disposal of any lead-containing residue ash that would not meet hazardous waste delisting criteria. Treatability studies do not appear necessary to conclude that a significant portion of this material will need to be managed a hazardous waste.

Alternative 6 also involves greater short-term risks than Alternative 3A. Remedial Alternative 3A is fully protective of human health and the environment. Alternative 3A, in combination with the operable unit currently being designed, treats the most hazardous material at the site. Comments received from the community thus far have expressed great concern about incineration activities at the site. This concern was a factor in the proposal of Remedial Alternative 3A, which incinerates only the most hazardous materials, and minimizes the duration of incineration.

RECORD OF DECISION  
Remedial Alternative Selection  
Source Removal Operable Unit

SITE: Laskin/Poplar Oil - Ashtabula, Ohio

PURPOSE:

This decision document represents the selected remedial action for the operable unit for the Laskin/Poplar Oil site. It was developed in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and to the extent practicable, the National Contingency Plan of 1985 (NCP) (40 CFR Part 300).

The State of Ohio has concurred on the selected remedy, as stated in the attached Letter of Concurrence.

BASIS:

The selection of remedy is based upon the Laskin/Poplar Oil site Administrative Record. The attached index identifies the items which comprise this record.

DESCRIPTION OF SELECTED REMEDY:

The selected remedy consists of the following major components:

- construction of a fence around the contaminated portions of the site and the on-site incinerator;
- on-site incineration of oils, sludges, and highly contaminated soils;
- off-site treatment of all wastewater, decontamination water, and scrubber water;
- off-site disposal of all incinerator ash;
- dismantling and off-site disposal of all tanks;
- crushing and incineration of the cinder block walls of the pits;
- backfilling and/or grading of all excavated areas to preclude ponding.

DECLARATION:

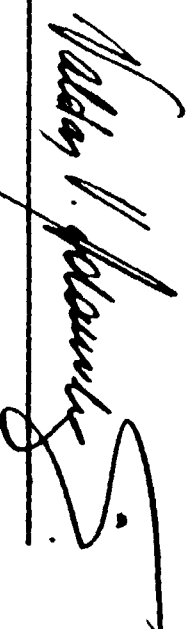
Consistent with CERCLA, as amended by SARA, and the NCP, I have determined that the remedy described above is a cost-effective interim remedy. This action is

protective of human health and the environment, attains Federal and State applicable or relevant and appropriate requirements, and is cost-effective. This option will not require any long-term operation and maintenance activities. This remedy satisfies the preference for treatment that reduces toxicity, mobility, or volume as a principal element. Finally, it is determined that the remedy utilizes permanent solutions and alternative treatment technologies to the maximum extent practicable.

The United States Environmental Protection Agency (U.S. EPA) is continuing its Comprehensive Remedial Investigation/Feasibility Study (RI/FS) for the Laskin/Poplar Oil site. Phase II of the RI is scheduled to begin during the 1st Quarter of Fiscal Year 1988 and will further characterize the site, major migration pathways, and extent of dioxin contamination. The U.S. EPA is planning to complete the remaining tasks of the RI/FS by late 1988. This will include the identification and evaluation of potential final remedial actions. If additional remedial actions are determined to be necessary, a Record of Decision will be prepared for approval of the future remedial actions.

September 30, 1987

Date

  
Valdas V. Adamkus  
Regional Administrator  
United States Environmental Protection  
Agency, Region V

## SUMMARY OF REMEDIAL ALTERNATIVE SELECTION

### LASKIN/POPLAR OIL SITE

#### SOURCE REMOVAL OPERABLE UNIT

#### SITE LOCATION AND DESCRIPTION

The Laskin/Poplar Oil site is located west of the village of Jefferson in Ashtabula County, Ohio. The site occupies approximately 9 acres. The general site location is shown in Figure 1.

The site is bounded on the north by Cemetery Creek, on the south and east by the Ashtabula Fairgrounds, and to the west by wooded areas. A map of the site is shown in Figure 2. The following facilities and structures are located on site:

- The residence of Mr. Alvin Laskin, property owner;
- A boiler house, four boilers, and a stack;
- Several greenhouses;
- Thirty-four tanks;
- Four pits;
- A retention pond, a freshwater pond, and two treatment ponds; and
- Miscellaneous sheds and buildings.

#### SITE HISTORY

A greenhouse operation started at the Laskin/Poplar oil site approximately 80 years ago. Boilers were installed approximately 30 years ago to heat the greenhouses. During the 1960's, tanks were installed to hold waste oil to fire the boilers. The oils were not analyzed prior to acceptance, and oil containing PCB's and other hazardous constituents were accepted.

When the greenhouse business deteriorated, the owner began collecting, reselling, and disposing of waste oils. These activities included oiling roads in Ashtabula County. Through a series of legal actions, the company was placed into receivership. All on-site business activities relating to oil have stopped.

Remedial activities began in December, 1980 and the site is presently involved in a comprehensive federal-lead Remedial Investigation/Feasibility Study (RI/FS) which will be completed in 1988. This action is an operable unit to address the source material onsite. It will be consistent with the final remedy to the greatest extent practicable.



Several emergency actions have taken place at the site since the U.S.EPA first became involved. During 1982, Superfund planned removal operations removed 302,000 gallons of waste oil, treated and released 430,000 gallons of contaminated water and solidified 205,000 gallons of sludge. In 1985-86, the potential responsible parties (PRPs) removed approximately 250,000 gallons of oil and wastewater from the site. All of the pits have been covered.

#### CURRENT SITE STATUS

Phase I of the remedial investigation (RI), which characterized the Laskin/Poplar Oil site and identified potential pathways for chemical migration, has been completed. Field work for Phase II of the RI is scheduled for 1QFY88 and will provide detailed information on groundwater, soil, and dioxin contamination. The ROD for the overall site is expected some time in 1988.

Data collected during the Phase I of the RI and by the PRPs has shown that further action is required at the site. Of immediate concern is the bulk waste material still present at the site and the potential risk to public health, welfare, and the environment the waste material presents. The waste present on the site include the following:

- Approximately 6000 gallons of oil
- Approximately 60,000 gallons of wastewater
- Approximately 705,000 gallons of sludge

A more detailed breakdown of the waste volumes is given in the Appendix of the phased feasibility study.

The types of contaminants present in the wastes include polychlorinated biphenyls (PCBs), polynuclear aromatic hydrocarbons (PAHs), and volatile organic compounds (VOCs). The levels of contaminants found in the waste material are summarized in Table 1. The soils immediately surrounding the pits are expected to have contaminant levels commensurate with those found in the sludges and oils. Lower levels of contaminants are found in the borings surrounding the pits. Soils which are visibly contaminated will be considered "source" soils and will be included in this source removal operable unit.

#### RISK TO RECEPTORS VIA PATHWAYS

There is a continuing potential for a release of the contaminated liquids and sludges to the environment. A release could occur through fire, natural deterioration of the tanks and their fittings, seepage through the sides and unlined bottoms of the pits, and accidental or deliberate acts. A release from any of these routes would have the potential to contaminate surface water, groundwater, and soil.

The route of greatest concern is seepage from the sides of the pits and the unlined bottoms of the pits. Seepage from the pits would have the potential of contaminating groundwater and soil. Groundwater samples taken by EPA contractors and soil samples taken from around the pits indicate releases have already occurred. The soils immediately surrounding the pits are expected to contain contaminants at levels similar to those found in the sludges and oils in which they are in contact. The continued presence of these waste materials would allow more seepage to occur.

There is a potential for fire at the site. The wastes in Pit 2 have a flash point of only 30-35 F, and much of the oils and sludges have high BTU values. A fire, started by whatever means, could create a contaminated smoke plume and could release contaminated materials to the site and surrounding area.

Based on surface topography, contaminants released on site have the potential of being carried into Cemetery Creek. Cemetery Creek empties into the Grand River which supplies the drinking water for approximately 25,000 people in Ashtabula County.

#### PCBs

PCBs are absorbed through the lungs, the gastrointestinal tract, the intact skin, and (in experimentally exposed animals) the eyes. After absorption, PCBs circulate through the body in the blood and accumulate in the liver, adrenal glands, and skin.

The most significant concerns from PCBs are the chronic effects which are manifested over prolonged, but not necessarily continuous, exposure to low levels. Many of the toxic effects in mammals have been noted at extremely low levels of exposure, in several species at dietary levels of only 1.0 to 2.5 ppm or less. The toxic effects of PCBs in humans have been reported both as a result of occupational exposures and in the general population. PCBs have been shown to be carcinogenic in rats and mice, and there is evidence that it might cause stomach and liver cancer in humans. The Office of Health and Environmental Assessment (OHEA) of the U.S.EPA developed health advisories for PCBs in soil. The OHEA assessment concluded that a PCB level of 1 to 5 ppm in soil in a residential/commercial area would be associated with a  $1 \times 10^{-5}$  level of oncogenic risk.

The levels of PCBs in the oils are above 50 ppm in every sample taken and are as high as 170 ppm. The levels in the sludges are generally greater than 20 ppm and are found as high as 238 ppm. The levels of PCBs found in the borings nearest to the pits, approximately 4 to 6 feet, are below 3 ppm.

## METALS

Lead is the metal of primary concern found in the waste material. The main routes of exposure for lead are inhalation and ingestion. The Centers for Disease Control (CDC) have stated that soil and dust levels of greater than 500-1000 ppm appear to be responsible for blood levels in children increasing above background levels. The major health effects associated with lead concern damage to the hematopoietic and neurological system. Lead can cause renal dysfunction, and is known to be teratogenic to animals. There is evidence that young children are more sensitive to the toxic effects of lead than are adults.

The levels of lead in the oils range from 30-543 ppm. The level of lead in the sludges range from 69-12,400 ppm.

## POLYNUCLEAR AROMATIC HYDROCARBONS (PAHs)

A number of PAHs were identified in the base/neutral analysis for the sludges. As a group, PAHs are persistent in the environment. Some PAHs are carcinogenic and mutagenic. Materials such as tars and oils, known to contain PAHs, have been shown to be carcinogenic to humans. According to the regional spokesperson for the Agency for Toxic Substances and Disease Registry (ATSDR), CDC considers total average PAH levels of up to 100 ppm in residential areas and 1000 ppm in commercial areas acceptable.

The levels of total PAHs in the sludges range from 428 ppm to over 82,000 ppm.

## VOLATILE ORGANIC COMPOUNDS (VOCs)

No health based standards for VOCs in soil currently exist. However, some of the VOCs found at the site are considered toxic or are carcinogens. A number of the VOCs in the sludges can be found at levels greater than 10,000 ppm. The level of VOCs in the closest soil borings to the pits can be found at greater than 1 ppm.

## ENFORCEMENT HISTORY

State actions at the Laskin/Poplar Oil site include a complaint filed in the Ashtabula County Court of Common Pleas in April 1979 for air and water pollution violations. The owner/operator was found liable by the court and ordered to cleanup the site. The owner/operator was found in contempt of court on several occasions and a receiver was appointed for the business by the Ashtabula County Court of Common Pleas court on December 22, 1980. The owner/operator entered into a consent decree with the Federal Government on January 21, 1981. The consent decree required the owner/operator to cleanup the site, halt discharge of contaminated water to Cemetery Creek, and abide by TSCA PCB rules.

After several emergency fund-financed removals between 1980 and 1983, a unilateral Administrative Order (AO) was issued to four PRPs in August 1984. This AO required the removal and incineration of the bulk of the contaminated oil and treatment of the contaminated water that was contained in the pits and tanks on site. This order was complied with during the winter of 1985-86.

A second unilateral AO, to eight PRPs, was issued in July 1986. This order, which originally required the removal and incineration of the remaining sludge, was amended in September, 1986. The amended AO required the development of a workplan to remove and incinerate the sludge and to sample the soils around the in ground pits. This workplan was submitted in March 1987.

Additionally, while these administrative enforcement activities were taking place, the U.S.EPA was pursuing a cost recovery action to recover the monies spent on the emergency actions. The first complaint was filed in June 1984. Amended complaints were filed in December 1984, July 1985, and October 1986. Currently there are eleven defendants in this action including the owner/operator, the operating company (Poplar Oil Co.), a finance company, and eight corporations which generated wastes sent to the site. These defendants have sued an additional 600 third parties, have settled with approximately 30, and have since dismissed another 30 for lack of evidence. Settlement discussions on this action are on-going.

#### COMMUNITY RELATIONS HISTORY

U.S.EPA's community relations activities at the Laskin/Poplar Oil site date back to 1981, when the agency conducted emergency actions to prevent oil from leaching off the site. Between July and November, 1982, U.S.EPA conducted a removal at the site which resulted in the elimination of the site's most imminent-hazards. A Community Relations Plan (CRP) was prepared and implemented during that time.

The public comment period for this operable unit started on August 10, 1987 and went through September 11, 1987. On August 18, 1987, a public availability session was held at the Jefferson Courthouse, giving area residents an opportunity to meet and talk with staff about site activities. On August 26, U.S.EPA held a public meeting to accept comments on the feasibility study for the source material removal operable unit.

Health issues have and continue to be a major source of concern for the citizens. Concerns center around the pathways of possible exposure to contaminants during the period of the site's operation. These include exposure to the burning of PCB contaminated oil, the road spreading of the oil, and the presence of dioxin. Questions and comments posed by the community and the PRPs are included in the attached responsiveness summary.

## ALTERNATIVES EVALUATION

The major objective of the phased feasibility study (PFS) is to evaluate remedial alternatives for the removal of source material from the Laskin/Poplar Oil site. Source material includes the sludges, oils, and wastewaters as well as highly contaminated soils. The clean-up approach established for this operable unit was developed to address the materials which may serve as a source for further site contamination and is not meant to serve as the final remediation level for the site. All attempts have been made to keep the actions of this operable unit consistent with the final remedy to the extent it can be anticipated.

The remedy selected will be consistent with the goals and intent of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA) and the National Oil and Hazardous Substances Contingency Plan (NCP) (40 CFR Part 300 et. seq., 47 Federal Register 31130, July 15, 1982).

An environmental assessment presented in Chapter 2 of the PFS determined that source control measures are needed at the site. A list of appropriate remedial response technologies was identified. Each technology was screened based on its technical feasibility and implementability. The following technologies were considered appropriate technologies:

### Oils/Sludges/Soils

- On-site containment
- Off-site containment
- On-site land treatment
- On-site incineration
- Off-site incineration
- On-site incineration/  
Off-site containment

### Wastewaters

- On-site treatment
- Off-site treatment

### Tanks

- Dismantling/Off-site  
disposal

Technologies which were eliminated from further consideration include on-site containment, on-site land treatment, and on-site wastewater treatment. The on-site containment option encompassed the placement of the source soils and the waste from the tanks and pits into an on-site waste disposal unit. This option was not considered implementable due to the impending November 8, 1988 deadline imposed by the Land Disposal Restrictions. The Land Disposal Restrictions prohibit the land disposal of all wastes included on the California List and solvent wastes from

categories F001-F005. The design, construction, disposal, and closure would all need to be finished prior to the November 3, 1988 deadline. Land treatment was not considered technically feasible for the treatment of the levels of PCBs and halogenated organics found in the waste materials. On-site wastewater treatment was not considered technically feasible, based on the volumes expected and the difficulty in achieving discharge requirements due to the wide variety of organics compounds and levels of lead found in the waste. The wastewaters would be more suited for treatment at a commercial wastewater facility.

Remedial action alternatives were developed from the remaining technologies. These alternatives were then compared on cost effectiveness, protectiveness to the public and the environment, and compliance with the requirements and intent of SARA. A comparative evaluation of the alternatives is shown in Table 2.

#### Alternative 1

Under this alternative, no remedial action would be taken at the site. The threat to public health and the environment, as described earlier and in the FS, would remain.

#### Alternative 2

Alternative 2 consists of solidifying all of the liquid wastes and placing all of the source material in a licensed TSCA or RCRA facility as appropriate. All tanks would be dismantled and taken off-site. The pit area would be backfilled with on site soils and graded to preclude ponding.

No long term maintenance or monitoring at the Laskin/Poplar Oil site would be required under this alternative. However, the waste would not be treated prior to landfilling at the licensed facility. The long term dependability of any landfill is unknown. The cost estimate for Alternative 2 is \$4.2 million.

#### Alternative 3

Alternative 3 combines on-site incineration of the oils, sludges, and source soils with off-site treatment of the wastewaters, decontamination water, and scrubber water. The incinerator ash and dismantled tanks would be disposed in an off-site RCRA licensed facility. If tests indicated that the ash could be delisted, the ash could be sent to a sanitary landfill. The excavated pit area would be backfilled with onsite soils and graded to preclude ponding.

This option would not require any long term maintenance or monitoring at the site. All source material would be treated to the greatest extent practicable. The cost estimate for alternative 3 is \$8.5 million.

#### Alternative 4

Alternative 4 utilizes off-site incineration for all oils, sludges, and highly contaminated soils. All wastewaters and decontamination water would be treated at an off-site treatment facility. The tanks would be demolished and disposed of at a licensed facility off-site. The excavated areas would be backfilled with on-site soils and graded to preclude ponding.

This option would not require any long term maintenance or monitoring at the site. All source material would be treated to the greatest extent practicable. The cost estimate for Alternative 4 is \$12.2 million.

#### Alternative 5

Alternative 5 includes on-site incineration of all oils and sludges as well as soils with greater than 25 ppm PCBs or 500 ppm total halogenated organics. The remainder of soil excavated from the tank and pit areas would be landfilled off-site at a RCRA licensed hazardous waste facility along with all dismantled tanks. All wastewaters, decontamination water, and scrubber water would be treated at an off-site treatment facility. The excavated areas would be backfilled with on-site soils and graded to preclude ponding.

This alternative would not require any long term maintenance or monitoring at the site. The most highly contaminated source material would be permanently treated. However, the soils that would be landfilled, which comprise roughly one half of the source material, would not be treated. The off-site disposal of waste without treatment is the least favored option under SARA. The cost of Alternative 5 is \$5.8 million.

With the exception of no action (Alternative 1), all of the alternatives would effectively and permanently minimize the danger to the public health and the environment at the site area through the removal of the contaminated material.

The use of an off-site landfill (Alternative 2 and 5) is conventional, easy to implement, and transfers the operation and maintenance to the owner/operator of the landfill. The most significant disadvantage of this option is that it does not treat the contaminants, so there is no reduction in toxicity, volume, or mobility. It also may be difficult to maintain the long term integrity of hazardous waste landfills as required by the U.S.EPA's off-site policy. The off-site disposal of contaminated materials without treatment is the least preferred option under SARA.

The off-site incineration of the source materials (Alternative 4) offers the advantage of permanently destroying the contaminants in the waste material and the soils. It is a proven technology that transfers operation and maintenance to the owner/ operator of the incinerator facility. One the most significant disadvantage of this alternative is implementability. The material must be packaged in small fiber drums for transportation. The facilities available have commitments to their regular clients which control when and at what rates the source material can be taken care of. In addition, a number of off-site hazardous waste incinerators have shown a reluctance to accept the waste material due to the high levels of lead found in some of the sludges. Transportation of the waste to an off-site facility increases both the cost of this alternative and the risks posed to the public by movement of contaminated materials on the highways.

As with off-site incineration, on-site incineration (Alternative 3 and 5) would utilize a proven technology to permanently destroy the contaminants in the source material. The advantages of this alternative are that the packaging requirements necessary for off-site incineration would be avoided, and all material could be processed in one year or less once the incinerator begins operation. This alternative also meets the goal of SARA of implementing a remedial action which incorporates treatment rather than land disposal where practicable.

A comparison of the alternatives on the basis of protectiveness of public health and the environment shows that on-site and off-site incineration provide a high level of protection. Alternatives which use a high degree of landfilling provide an equal level of protection in the short run. The long run dependability of landfills, however, are unknown. There would be no beneficial impacts associated with the no action alternative.

Any detrimental environmental effects associated with the waste and soil removal operations would essentially be the same for each alternative except the no action alternative. These short term negative impacts could be minimized using proper construction methods.

The State of Ohio and the U.S.EPA expressed preference for remedial actions that would provide destruction of hazardous constituents in lieu of transporting untreated wastes to a RCRA approved location. Section 121(b)(1) of SARA states "Remedial actions in which treatment which permanently and significantly reduces the volume, toxicity or mobility of the hazardous substances, pollutants, and contaminants is a principal element, are to be preferred over remedial actions not involving such treatment. The offsite transport and disposal of hazardous substances or contaminated materials without such treatment should be the least favored alternative remedial action where practicable treatment technologies are available."



Thus, the U.S.EPA emphasizes the need to consider treatment, recycling and reuse before off-site land disposal of hazardous substances from CERCLA sites is used. In addition, Section 300.63(h)(1) of the NCP provides that remedial alternatives should not be eliminated on the basis of cost alone. Therefore, other long term benefits should be analyzed when comparing alternatives.

Environmental benefits which would accrue as a result of selecting an incineration option over a land disposal option are:

- 1) permanent destruction of the PCBs, PAHs, VOCs, and other organics found in the source material.
- 2) elimination of the risk of release of hazardous substances to the environment and reduction of the health risk associated with this exposure, and
- 3) elimination of the need for governmental authorities to perform the environmental monitoring at the site would be necessary if the wastes were left on site or relocated to another site.

#### CONSISTENCY WITH OTHER ENVIRONMENTAL LAWS

The technical aspects of the remedial alternative implemented at the Laskin/Poplar Oil site will be consistent with all federal and state applicable or relevant and appropriate requirements (ARARs). Other environmental laws which may be considered ARARs to the remedial alternatives evaluated are the Resource Conservation and Recovery Act (RCRA), the Toxic Substance Control Act (TSCA), the Clean Air Act. Chapters 3704 and 3734 of the Ohio Revised Code (ORC), and Section 3745-15, 17, and 18 and 21 as well as Section 3745 - 50 through 3754 - 69 of the Ohio Administrative Code.

The specific provisions of RCRA which may serve as ARARs for the alternative chosen include the thermal destruction requirements (40 CFR Subpart P, Section 265.370 through 265.383), the incinerator requirements (40 CFR Subpart O, Section 265.340 through 265.369). These provisions list the procedures and requirements which must be complied with during the thermal destruction of the waste material. These requirements are also included in OAC rules 3745-57-40 to 3745-57-99 and OAC rule 3745-50-62. The off-site wastewater treatment requirements (40 CFR Parts 262 and 263) could also be considered an ARAR.

The selected remedy involves placement and treatment of soils and debris wastes. Placement of wastes or treated residuals is prohibited under RCRA Land Disposal Restrictions (LDR) unless certain treatment standards are met. LDR standards have not been published for soil and debris wastes, but when published, the standards may be applicable or relevant and appropriate. Despite the absence of specific treatment standards, the treatment method employed as part of this remedial action satisfies the statutory requirement to, "...substantially diminish the toxicity of

the waste or substantially reduce the likelihood of migration of hazardous constituents from the waste so that short-term and long-term threats to human health and the environment are minimized." [Sec. 3004 (ml 4,5,6,7,8)]

Emissions from the incinerator would be covered under the Clean Air Act, ORO Chapter 3704, and OAC Sections 3745-15, 17, 18, and 21. Off-site transportation of hazardous waste is covered under OAC 3745-63-11. This requires the transporters of hazardous waste to register with the Public Utilities Commission of Ohio and to obtain Ohio transporter registration numbers. These requirements will be met during the remedial action. ARARs will only be waived under the conditions set forth in Section 121(d)(4) of SARA. This action is considered an interim measure. Therefore, no final cleanup levels have been determined. The final cleanup levels will be determined at the completion of the overall site RI/FS.

### RECOMMENDED ALTERNATIVE

It is recommended that Alternative 3 be selected. This alternative consists of the following:

- Construction of a fence around the contaminated portions of the site and the on-site incinerator
- On-site incineration of oils, sludges, and "source" soils
- Off-site treatment of all wastewaters, decontamination water, and scrubber water
- Off-site disposal of all incinerator ash
- Dismantling and off-site disposal of all tanks
- Crushing and incineration of the cinder block walls of the pits
- Backfilling and/or grading of all excavated areas to preclude ponding

Based on the comparison of alternatives, the recommended alternative is fully protective of public health and the environment, cost effective, utilizes treatment technology to the maximum extent practicable, and will meet all applicable, or relevant and appropriate federal and state requirements. It has an estimated cost of \$8.5 million.

### DESCRIPTION OF RECOMMENDED ALTERNATIVE

At the inception of the remedial action, the site would be fenced to reduce access to the contamination on site and the equipment used for the remedial action. Site access would only be granted on an as needed basis.

On-site mobile incinerators are a proven and available technology. Based on vendor information, both infrared and rotary kiln mobile incinerators

would be capable of achieving the 99.9999% destruction efficiencies required for PCB wastes. Both units have air scrubber systems capable of effectively removing air emission constituents to the levels needed to meet all federal and state ARARs. Air emission levels would be specified during the remedial design process. The attainment of these levels would be required.

The soils could be used to condition the sludges to aid in material handling. The oils found on site could be used as a supplemental fuel source for the sludges and soils. The cinder block walls of the pits would be crushed and combined with the oils, sludges, and soils to be burned.

All ash generated during the incineration process would be tested to determine the appropriate method of off-site disposal. If the test results indicate that the ash should be classified as a hazardous waste, it would be sent off-site to a RCRA licensed landfill for disposal. The transportation of the ash would be conducted by a company experienced in hazardous waste handling. The company would be required to have all necessary permits, manifests, and insurance. If the ash can be delisted, it could be sent to a sanitary landfill.

Off-site wastewater treatment is technically feasible and has been used for earlier wastewater removed from the site. All decontamination water and scrubber water would be disposed of in a similar fashion. An experienced hazardous waste hauler would be used to transport the waters.

After all waste has been removed from the tanks, the tanks will be dismantled for transportation and disposal at an off-site RCRA facility. The exact method of dismantling could include flame, hydraulic, or other technique that could be safely carried out on site. The choice of demolition method will be made during remedial design activities, or during the removal operation, based on site conditions.

ATT areas which have been excavated will be backfilled with on-site soils and/or graded to preclude ponding. Site runoff from the area will be directed to the existing retention pond.

The source removal is intended solely as an interim measure. The cleanup levels used will not necessarily be the final remediation level for the site. The final levels will be determined during the overall site RI/FS. All attempts have been made to keep the remediation efforts associated with this operable unit consistent with the final remedy to the extent that it can be anticipated.

The intent of this operable unit is to remove the the source material still present on the Laskin/Poplar Oil site. To be consistent with the intent, the operable unit must deal with the soils which have become significantly contaminated due to the bulk movement of the oils and sludges. Therefore, the soils surrounding the pits and in the tank area will be

removed until the remaining soils are visibly clean. The remaining soils will be sampled and analyzed for the full hazardous substance list prior to backfilling and grading. This will aid in the overall site cleanup.

The following is a cost estimate for the recommended alternative.

Site preparation, mobilization, demo- bilitization and permitting	\$1,500,000	
Conditioning and incineration of wastes and soils	\$4,377,500	@ \$500/ton
Transportation of 4340 tons of ash to the landfill	\$244,125	20 tons/load 300 miles @ \$3.75/mi.
Disposal cost for 4340 tons of ash	\$651,000	4340 tons @ \$150/ton
Transportation and disposal of scrubber and decon. water	\$350,200	875,500 gal. @ \$0.40/gal
Tank cutting and decontamination	\$200,000	
Transportation of 245 tons of dismantled tanks	\$ 13,785	20 tons/load 300 miles @ \$3.75/mi.
Landfill costs for 245 tons	\$ 36,750	245 tons @ \$150/ton
Pit backfilling and grading	\$ 10,000	
Indirect costs including engineering services and contingencies	\$1,107,505	15% of all costs
<b>Total</b>	<b>\$8,490,865</b>	

#### OPERATION AND MAINTENANCE

The preferred alternative will require operation and maintenance costs associated with the start-up (including the trial burn) and the operation

of the mobile incinerator. These costs would be limited to the period of time when the incinerator would be operating, which has been estimated to be approximately one year and is included in the cost estimate. There is no long term operation or maintenance associated with this alternative. No long term monitoring will be required.

#### SCHEDULE

The following schedule of activities provides projected milestones for the work to be performed at the Laskin/Poplar Oil site.

Approve Remedial Action (ROD)	September 1987
Design Award (Notice to Proceed)	January 1988
Design Completion	April 1988
Award Contract	July 1988
Begin Remedial Action	September 1988
Complete Remedial Action	September 1989

#### FUTURE ACTIONS

A work plan was completed in August 1987 for Phase II of the RI for the site. A ROD for the overall site cleanup is scheduled for September 1988. The overall site RI/FS will deal with groundwater, dioxin, and overall soil contamination.



State of Ohio Environmental Protection Agency

P.O. Box 1049, 1800 WaterMark Dr.  
Columbus, Ohio 43266-0149



Richard F. Celeste  
Governor

September 28, 1987

RECEIVED

OCT 01 1987

U.S. EPA REGION 5  
OFFICE OF REGIONAL ADMINISTRATOR

Mr. Valdas V. Adamkus  
Regional Administrator  
U.S. EPA, Region V  
230 South Dearborn Street  
Chicago Illinois 60604

Dear Mr. Adamkus:

After review of the Phased Feasibility Study for Source Material Removal for the Laskin/Poplar Oil Superfund site and the draft Record of Decision for this remedial action, Ohio EPA concurs with the proposed remedial alternative. This alternative includes:

- construction of a fence around the contaminated portions of the site and the on-site incinerator;
- on-site incineration of oils, sludges and "source soils";
- off-site treatment of all wastewaters, decontaminated water, and scrubber water;
- off-site disposal of all incinerator ash;
- dismantling and off-site disposal of all tanks;
- crushing and incineration of the cinder block walls of the pits;
- and backfilling and grading of all excavated areas.

Estimated cost of \$0.5 million.

Ohio will assure payment of 10 per centum of the remedial action. There is no operation and maintenance required for this action.

Sincerely,

Richard L. Shank, Ph.D.  
Director

O. WMD  
CC: RF  
RA  
FREEMAN ✓

RLS/RH/lz

cc: David Strayer, CAS, OSHM  
Rodney Beals, NEDB  
Nate Vitale AGN

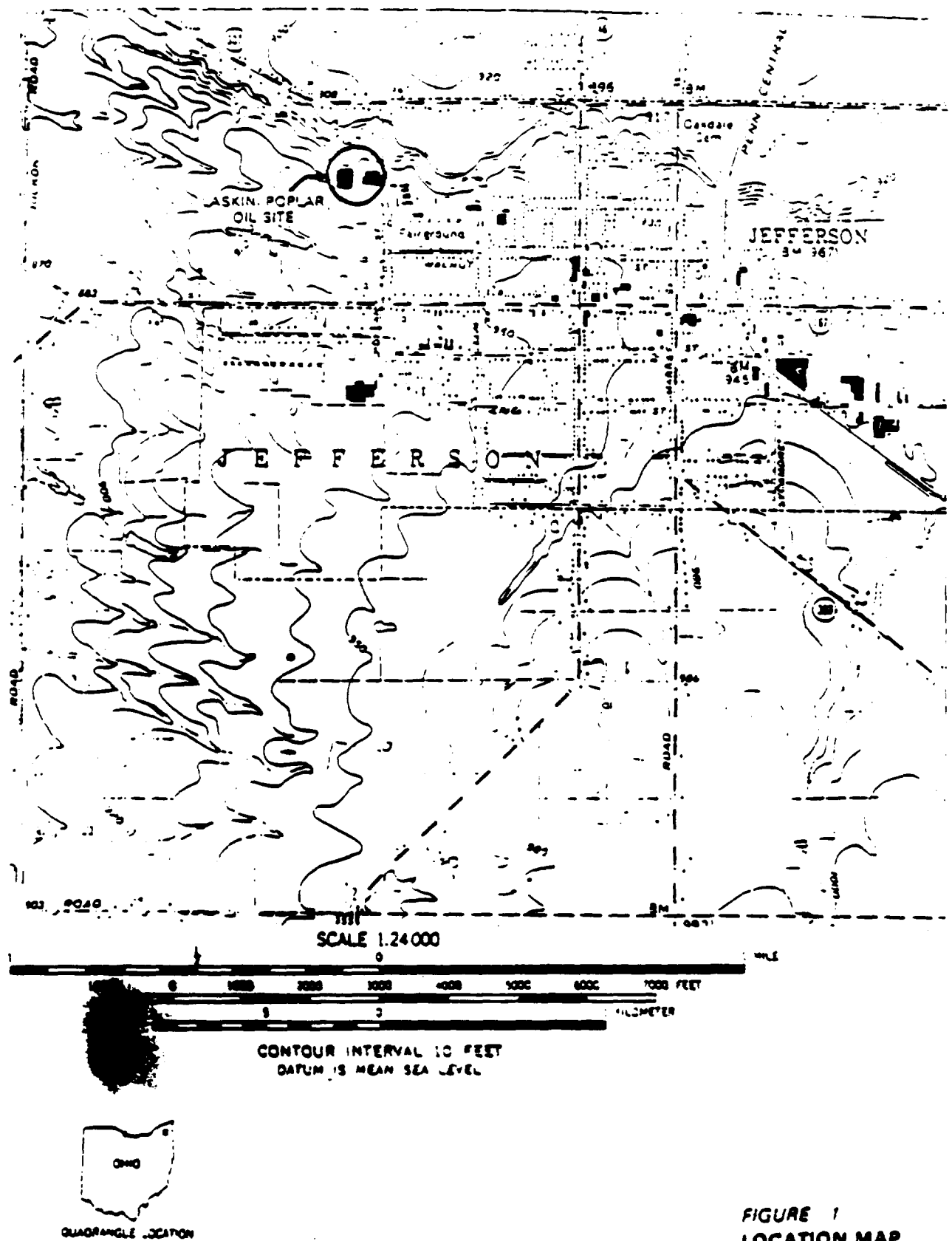


FIGURE 1  
LOCATION MAP  
LASKIN, POPLAR OIL

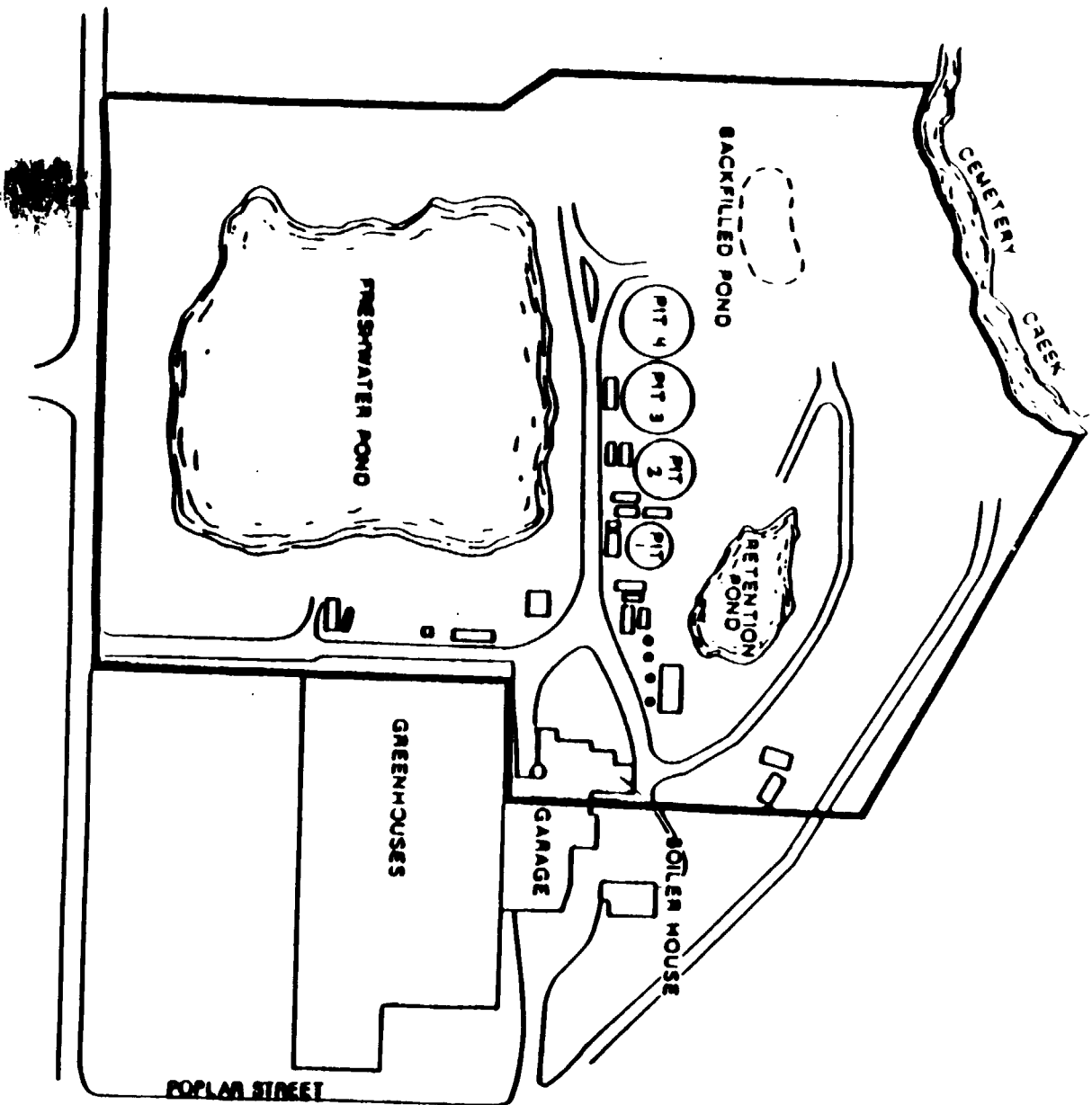


FIGURE 2  
SITE MAP  
LASKIN/POPLAR OIL



TABLE 1  
ANALYSIS OF WASTES

	Oils	Ranges of Contaminants Wastewaters	Sludges
METALS (ppm)			
Aluminum		0.04-1.37	28-14,600
Antimony		0.0-0.2	0.0-13
Arsenic		0.0-0.75	0.0-16
Barium	2.0-34	0.021-0.7	6.1-1,270
Chromium	0.0-8.5	0.0-0.074	10-3,420
Copper	0.0-13	0.0-0.224	25-598
Iron	25-295	0.227-74.9	28-4,720
Lead	30-543	0.004-0.62	69-12,400
Magnesium	<20	0.08-47.2	0.0-9,040
Manganese	1.9-8.4	0.014-7.22	0.0-375
Mercury	0.0-0.24	0.0-0.0003	0.0-18
Nickel		0.0-0.291	0.0-82
Zinc	9.0-290	0.267-15.9	18-5,060
Cyanide		0.0-0.03	0.0-5
PCBs (ppm)			
Aroclor 1221		0.0-0.054	
Aroclor 1242 and/or 1016	10-22	0.0-0.024	0.0-94
Aroclor 1254	41-144	41-0.15	0.0-170
Aroclor 1260	0.0-12		
VOLATILE ORGANICS (ppm)			
Methylene Chloride		0.0-2.4	0.0-3,800
Acetone		0.25-46	0.0-97,000
1,1-Dichloroethene			0.0-1.7
1,1-Dichloroethane		0.0-0.12	0.0-5.3
Chloroform		0.0-1.2	0.0-5,100
1,2-Dichloroethane		0.0-0.36	0.0-6,400
2-Butanone		0.0-18	0.0-19,000
1,1,1-Trichloroethane		0.0-0.27	0.0-21,000
Trichloroethene		0.0-0.04	0.0-1,200
Benzene		0.0-0.46	0.0-280
4-Methyl-2-Pentanone		0.0-3.8	0.0-7,400
Tetrahydrofuran		0.0-0.01	0.0-750
Toluene		0.0-7.4	22-76,000
Chlorobenzene			0.0-2
Ethylbenzene		0.0-14	14-44,000
Total Xylenes		0.0-3.4	49-140,000
Vinyl Acetate			0.0-10

TABLE 1  
(cont.)

ANALYSIS OF WASTES

	Ranges of Contaminants	
	Wastewaters	Sludges
BASE/NEUTRALS (ppm)		
1,3-Dichlorobenzene		0.0-120
1,2-Dichlorobenzene		0.0-62
Nitrobenzene	0.0-2.2	
Isophorone	0.0-17	0.0-15,000
1,2,3-Trichlorobenzene		0.0-130
Naphthalene	1.3-15	0.0-34,000
2-Methylnaphthalene	0.45-45	96-5,800
Acenaphthalene	0.0-6.5	0.0-1,000
Acenaphthene	0.11-34	50-6,600
Dibenzofuran	0.25-30	0.0-3,600
Fluorene	0.0-30	0.0-5,000
4-Nitroaniline	0.0-5	
n-Nitrosodiphenylamine	0.0-26	0.0-1,500
Phenanthrene	0.62-97	0.0-12,000
Anthracene	0.14-17	0.0-9,000
di-n-Butyl Phthalate	0.0-2.7	0.0-62
Fluoranthene	0.22-30	0.0-5,300
Pyrene	0.18-35	0.0-5,200
Butylbenzylphthalate	0.0-0.033	0.0-290
Benzo (A) Anthracene	0.0-8.5	0.0-1,400
bis(2-ethylhexyl) Phthalate	0.0-8.5	0.0-370
Chrysene	0.0-51	0.0-1,500
Di-N-Octyl Phthalate		0.0-1,000
Benzo (B) Fluoranthene	0.0-6.2	0.0-95
Benzo (A) Pyrene	0.0-0.44	
Indeno(1,2,3-c,d) Pyrene		0.0-330
Benzo (g,h,i) Pyrene		0.0-350
ACID EXTRACTABLES (ppm)		
Phenol	1.7-53	0.0-34,000
2-Methylphenol	0.0-34	0.0-8,500
4-Methylphenol	0.0-9.5	0.0-22,000
2,4-Dimethylphenol	0.0-16	0.0-2,700
4-Chloro-3-Methylphenol		0.0-140

Table 2  
ALTERNATIVES EVALUATION SUMMARY MATRIX

	On Action	Off-site Containment	On-site Incineration	Off-site Incineration	On-site Incineration Off-site Containment
ORDER OF PRIORITY CRITERIA	10	\$6,159,005	\$6,450,005	\$12,101,355	\$5,129,910
TECHNICAL CRITERIA					
Feasibility	Not Applicable	* Alternatives commercially available	* Alternative is commercially available	* Alternative is commercially available	* Alternatives commercially available
Implementability	Not Applicable	* Land Disposal Restriction deadline 11/8/00	*	*	*
ENVIRONMENTAL AND ECONOMIC CRITERIA					
Potential for chemical migration likely		* Wastes not treated long-term dependability of landfill unknown	* All wastes permanently treated	* All wastes treated permanently treated	* Over half the wastes untreated long term dependability of landfill unknown
Impact on Potential for Migration of Wastes	No treatment is involved	No treatment is involved this is the least favored option under SRA	* Treatment is used to the greatest extent practicable	* Treatment is used to the greatest extent possible	* Less than half of the waste is treated. landfilling without treatment is the least favored under SRA.


LASKIN/POPLAR OIL SITE  
JEFFERSON OHIO

RESPONSIVENESS SUMMARY

The United States Environmental Protection Agency (U.S. EPA) recently held a public comment period from August 10, 1987 to September 11, 1987 for interested parties to comment on U.S. EPA's August 1987 Phased Feasibility Study (PFS) and Proposed Plan for a source removal operable unit at the Laskin/Poplar Oil site. At the time of the public comment period, U.S. EPA had announced its recommended alternative for the removal of the source material.

The purpose of this responsiveness summary is to document U.S. EPA's responses to comments received during the public comment period. All of the comments summarized in this document will be factored into U.S. EPA's final decision. Since the purpose of this comment period was to receive comments specifically related to the PFS, comments related to the overall Remedial Investigation/Feasibility Study (RI/FS) or the Superfund program as a whole will be addressed at a later time. A number of comments were received well after the closing date of the public comment period. U.S. EPA has not responded to those comments, except to the extent that many of the same comments were made in timely submissions.

This responsiveness summary is divided into the following sections:

- I. Responsiveness Summary Overview - This section briefly outlines the proposed remedial alternatives as presented in the PFS including the recommended alternative.
  - II. Summary of Public Comments and U.S. EPA Responses - This section summarizes both written and oral comments received from the community and the local officials and the U.S. EPA's responses. The comments are organized by subject area.
  - III. Summary of Potential Responsible Party (PRP) Comments and U.S. EPA Responses - This section summarizes both written comments received from the PRPs and the U.S. EPA responses. The comments are organized by subject area.
- 

## I. RESPONSIVENESS SUMMARY OVERVIEW

### A. Proposed Alternatives and Recommended Alternative

The PFS identifies and evaluates alternate source control options. The alternatives range from no action to complete and permanent treatment. The alternatives were screened and evaluated based on their technical feasibility, implementability.

Five alternatives passed the initial screening and were compared in detail. The five alternate included:

1. No action;
2. Off-site Containment;
3. On-site Incineration;
4. Off-site Incineration;
5. On-site Incineration/Off-site Containment.


These five alternatives were then subjected to a detailed evaluation of their effectiveness, compliance with the Superfund Amendments and Reauthorization Act, and cost effectiveness. The U.S. EPA's recommended alternative is the on-site incineration of all source material on the site. Groundwater, soil, and dioxin contamination will be covered in the overall RI/FS for the site.

### B. Public Comments on the Remedial Alternatives

Public comments were received from the Village of Jefferson trustees, the Ohio Environmental Council, and citizens of Jefferson.

### C. PRP Comments on the Remedial Alternatives

The following entities submitted comments on behalf of the PRPs:

 Baker & Hostetler, Counsellors at Law, on behalf of  
Browning-Ferris Industries of Ohio, Inc., General Motors Corporation;  
TRW Inc., Rockwell International Corporation; Koppers Company, Inc.,  
and Be-Kan, Inc.

- Squire, Sanders, & Dempsey, Counsellors at Law, on behalf of  
Ashland Oil, Inc., Cleveland Electric Illuminating Company,  
Consolidated Rail Corporation, White Consolidated Industries,

Shell Oil Company, Mobil Oil Company, Sun Refining and Marketing Company, Inc., Matlack, Inc., Anchor Motor Freight, Inc. and Eliskim, Inc.

- Freedman, Levy, Knoll & Simonds, Counsellors at Law on behalf of Perfection Corporation.
- Keystone Environmental Resources, Inc on behalf of Be-Kan, Inc., Browning-Ferris Industries of Ohio, Inc., General Motors Company, Koppers Company, Inc., Rockwell International, Inc., and TRW, Inc.

## II. SUMMARY OF PUBLIC COMMENTS AND U.S. EPA RESPONSES

This responsiveness summary addresses both oral and written comments received by U.S. EPA concerning the Phased Feasibility Study (PFS) for the Laskin/Poplar Oil site. The comment period was held from August 10, 1987, to September 11, 1987. A public meeting was held on August 26, 1987, at the Ashtabula County Courthouse, as an opportunity for the public and other interested parties to present oral and written comments to the U.S. EPA. These comments are recorded in a transcript of the meeting which is available at the Information Repositories in Ashtabula and Jefferson, Ohio, and the U.S. EPA Region V office in Chicago. The written and oral comments are summarized and organized into the following categories:

- A) The remedial alternative;
- B) Additional site work; and
- C) General.

### A. Remedial Alternative

- A number of the comments received from the village trustees and the community supported the U.S. EPA's recommendation of an on-site mobile incinerator.

#### EPA's Response:

U.S. EPA is pleased that the community and local officials support the recommended alternative.

- A number of the comments expressed a concern regarding site security and access.

U.S. EPA's Response:

Areas of the site which are known to be contaminated are currently enclosed in a property fence. As an initial step of this proposed remedial action a chain link fence will be constructed. The exact extent of the fencing will be determined once initial sample results are received from the Phase II RI for the overall site and the incinerator location is chosen. Site access during the remedial action will be on an as needed basis only.

- One commentor wanted to know what equipment would be removed.

U.S. EPA Response:

This remedial action will result in the removal of the tanks and pits. At the end of the action, the mobile incinerator will be removed. The boiler stack, boilers, and other site features will be dealt with in the overall RI/FS.

3. Additional Site Work

- One commentor was concerned that dioxin was not mentioned in the PFS.

U.S. EPA Response:

Dioxin is not present in the areas covered by this action and so was not mentioned. Dioxin contamination is being considered in the overall site RI/FS.

C. General

- A number of commentors stated that local contractors should be used as much as possible.

U.S. EPA Response:

Work is to be performed by the U.S. EPA, selection of the contractors will be in accordance with applicable federal regulations. Therefore, bids will be solicited in a manner which will allow all qualified contractors capable of performing the work to bid on the project. Out of town contractors often rely on local contractors for many of the tasks. Information on becoming involved in CERCLA actions was given to Michael Wheeler of the Ashtabula County Disaster Services.

- A commentor felt that the public should be kept informed of EPA's schedule of activities.

U.S. EPA Response:

The U.S. EPA agrees. The community relations department has made a commitment to keep the public abreast of U.S. EPA actions.

III. SUMMARY OF PRP COMMENTS AND U.S. EPA RESPONSES

This responsiveness summary addresses the written comments submitted by or on behalf of the PRPs. The comment period was held from August 10, 1987, to September 11, 1987. A copy of the comments submitted are available in the Information Repositories in Ashtabula and Jefferson, Ohio and the U.S. EPA Region V Office in Chicago. The comments are organized into the following categories: A) EPA Authority, B) Remedial Alternatives, C) Time Limits, D) Funding, and E) General. The U.S. EPA responses are provided for each comment, or set of like comments.

A. EPA Authority

Commentors felt the U.S. EPA lacks the authority to perform the remedial action. The specific comments are listed below.

Comment:

- The U.S. EPA lacks authority to perform the Phased Feasibility Study and to take the proposed remedial action, due to the 1 year, \$2 million limits set forth in Section 104 of CERCLA.

U.S. EPA's Response:

The 1 year, \$2 million limits set forth in section 104 of CERCLA apply to emergency response action, not to remedial actions. The Phased Feasibility Study and the subsequent remedial action are not being performed under the emergency response authority, but under the remedial authority.

Comment:

- Under the Superfund Act, U.S. EPA may only perform remedial actions at the Laskin/Poplar Oil site if that action is necessary as a result of a release or threatened release of hazardous substances from the



site. Section 101(14) of Superfund states:

"The term [hazardous substance] does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, natural gas liquids, liquified natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas)."

The issue is also discussed in the U.S. EPA General Counsel Memorandum, July 31, 1987. The PRPs feel the oil exclusion implies the oil part of the waste material cannot be dealt with in the operable unit.

#### U.S. EPA Response:

The July 31, 1987 General Counsel discussion of the CERCLA Petroleum Exclusion set forth in Sections 101(14) and 104 (a)(2), referred to by the commentor, specifically states on pg. 8:

" However, it was clear that the omission of oil coverage was intended to include spills of oil only, and there was no intent to exclude from the bill mixtures of oil and hazardous substances."

The memorandum continued on pg. 10:

" In fact, one of the petroleum-hazardous substances mixtures most often mentioned during the debates was that of PCB contaminated oil which is a type of contamination arguably resulting from the "normal use" of the oil in transformers. Accordingly, an interpretation of the petroleum exclusion which includes as "petroleum" hazardous substances added during use of the petroleum would not be consistent with Congressional intent."

The situation at the site clearly falls within the authority of Superfund. The oils on site are mixed with a variety of volatile organic compounds, PCBs, and metals, and creosote wastes which are all listed as hazardous substances under Superfund. Creosote wastes, which are derivatives of wood and coal tars, not petroleum products, are a source of polynuclear aromatic hydrocarbons (PAHs), which are also classified as hazardous substances.

#### **8. Remedial Alternatives**

A number of comments were received questioning the U.S. EPA's choice of cleanup levels. These comments dealt with the reasoning behind the U.S. EPA's choice of cleanup levels and the consistency of the cleanup levels with the final remedy. Based on these comments, the U.S. EPA has

reconsidered the chosen cleanup levels. Based on the intent of the operable unit, to remove the source material found on site, and the desire to be consistent with the overall site remedy, the U.S. EPA has modified its cleanup level. The new cleanup level will require the removal of soils from around the pits and in the tank area until the remaining soils are visibly clean. This cleanup level is consistent with the intent of the operable unit and minimizes the likelihood that soils will be removed past the levels which will be determined in the overall site RI/FS. The specific comments made on behalf of the PRPs are discussed below.

Comment:

- The 5 ppm PCB cleanup level is inconsistent with the "National TSCA Policy". The national policy should govern the cleanup level at CERCLA sites. There is no reference to "Regional Policy" in Section 121 of CERCLA.

U.S. EPA's Response:

As mentioned earlier, the U.S. EPA will not be using the 5 ppm PCB action level for this operable unit. The soil shall be removed until it is visibly clean. Therefore, the issue is moot.

The regional policy approach, however, is fully consistent with and supported in the National TSCA Policy referenced. The national policy states in 40 CFR Part 761, pg. 10689:

"Therefore, spills which occurred before the effective date of this policy are to be decontaminated to requirements established at the discretion of EPA, usually through its regional offices."

Just as importantly, the TSCA policy does not supercede CERCLA policy. The TSCA rule specifically states on pg. 10690:

" However, other statutes require the agency to consider different or alternative factors in determining appropriate corrective actions."

Policy continues:

" Thus, cleanups under other statutes, such as RCRA corrective actions or remedial or emergency response actions under SARA, may result in different outcomes."

Comment:

- The draft is totally lacking in any explanation of why the Region is assuming that Laskin site must be considered a "residential area". Why can this not be considered a "restricted area", where National Policy allows much higher levels?

U.S. EPA's Response:


The site is considered a residential area for three reasons. First, the site owner/operator has his residence on the property. Second, National Policy defines residential/commercial areas as areas where people live or reside or where people work in other than manufacturing or farming industries. It also specifically includes playgrounds and parks. Areas which are less than .1 km from a residential/commercial area are considered as such even where access is restricted. Immediately across the street from the Laskin property is the Ashtabula County Fairgrounds and a set of softball fields. On the property itself there is a freshwater pond which people fish. Third, under current zoning, the property can be developed residential.

Comment:

- Why has the Region not considered the idea of covering the area with 10 inches of clean soil, which would allow for higher levels even in residential areas?

U.S. EPA's Response:

The use of a 10 inch soil cover was not considered by the Region because the operable unit is only an interim remedy. Since contaminated soils will remain onsite, the possibility exists for the clean soil to become contaminated or to be mixed with contaminated soil if further soil remediation is required. This could result in a larger volume of soil requiring further remediation and would not be cost effective. Also, the addition of soil would not do anything to prevent further contamination of the groundwater.

 Removal should be left until overall site cleanup levels are established. This is necessary to assure that the remedial action is cost effective and consistent with the rest of the site.

U.S. EPA Response:

As documented in the endangerment assessment included in the feasibility study, the sludges and oils contain hazardous substances at levels above

current health based standards.

It is the U.S. EPA's feeling, due to the fact that the pit bottoms are unlined, that the oils and sludges in the pits have been in direct contact with some soils. These soils are saturated with the contaminants and therefore can be considered source material. Leaving these soils on site would not be appropriate in terms of protectiveness to public health and the environment, would not be consistent with the intent of the remedial action, and would significantly increase the chances that a mobile incinerator would need to be returned to the site. This remobilization would be costly.

We understand the PRPs concern regarding unnecessary work during this remedial action and have reviewed the cleanup criteria to be used. Based on this review, the U.S. EPA has chosen a cleanup approach which it feels is consistent with the intention of removing the source material, protective of public health and will minimize the chance of removing material beyond final cleanup levels.

The chosen cleanup level requires that all soils around the pits and in the tank area which are visibly contaminated will be removed. The fact that the soils are visibly contaminated indicates that bulk movement of the source material has occurred. It would not be reasonable to leave these soils until the completion of the final RI/FS.

The commentators also felt that the Land Disposal Regulations had been misinterpreted. They felt that they would not apply to the conditions at the site. The comments are presented below:

Comment:

- Leachate concentrations based on the Toxicity Characteristic Leaching Procedure (TCLP) should be used in determining whether or not land disposal restrictions apply. This is based on the land ban "correction" notice of June 4, 1987. The PFS bases its conclusions on actual waste concentrations.

U.S. EPA's Response:

Leachate concentrations based on the TCLP was implicitly stated in the November 7, 1986 Land Disposal Restrictions and later explicitly in the June 4, 1987 corrections. The leachate concentrations are only to the solvent wastes F001-F005 which the PFS states some of the wastes could be considered. The levels in the sludges are such that the U.S. EPA feels they would have leachate concentrations above the limit. The levels are presented below.

<u>Contaminant</u>	<u>Maximum Concentration Found</u>	<u>Allowable Leach</u>
Methylene Chloride	3,300 ppm	.36 ppm
Acetone	97,000 ppm	.59 ppm
1,1,1-Trichloroethane	21,000 ppm	.41 ppm
Trichloroethene	1,200 ppm	.091 ppm
Tetrachloroethene	750 ppm	.05 ppm
Toluene	76,000 ppm	.33 ppm
Xylene	140,000 ppm	.15 ppm
Ethylbenzene	44,000 ppm	.053 ppm

In addition, liquid, PCB containing wastes are covered under the California List when they are contained in wastes which are listed as hazardous under 40 CFR Part 261, or if the mixture exhibits one or more of the characteristics of hazardous waste identified in that Part. PCBs are banned from land disposal if the total waste concentration (not an extract or filtrate) exceeds 50 ppm PCBs.

Wastes containing halogenated organic compounds (HOCs) are subject to the California List prohibitions if the waste is listed as a hazardous waste under 40 CFR Part 261, or exhibits one or more characteristics of hazardous waste identified in that Part. The land disposal prohibition applies to hazardous wastes containing HOCs in total concentrations greater than 100 mg/l (liquids) or 100 mg/kg (non-liquids). This is based on total waste concentration (not an extract or filtrate).

Comment:

- Is the Regions interpretation that the land ban would be triggered at the Laskin/Poplar Oil site consistent with Headquarters policy?

U.S. EPA Response:

The current interpretation in Headquarters regarding what triggers the Land Disposal Restrictions is that when the wastes are removed from their present location for treatment or disposal the Land Disposal Restrictions are triggered. On-site containment of the wastes would ~~not~~ trigger the removal of the liquids and sludges for solidification, thus ~~not~~ triggering the restrictions.

Even on the Land Disposal Restriction, certain treatment standards must be met. The treatment standards for liquid PCB wastes, with greater than 50 ppm PCBs, specifies thermal destruction. The treatment standard for Halogenated Organic Compound (HOC) wastes, with greater than 1000 ppm HOCs, specifies incineration.

The applicability of the Land Disposal Restrictions is separate from the placement issue which triggers the Minimum Technology Requirements

for a disposal unit. These requirements are triggered when an existing unit is expanded or a new unit is created. Under Headquarters policy, the definition of what is a unit can be expanded when the contamination is not centered in "hot spots" but is more general and uniform across a large site. This is not the case at the Laskin/Poplar Oil Site. The source material areas are distinct units. Therefore, the combination of all of the wastes into one containment area would trigger the Minimum Technology Requirements, which include a double liner and a double leachate collection system.

Comment:

- Based on the soils data collected in fulfillment of the consent order, PCB and HOC concentrations do not exceed land based limits.

U.S. EPA's Response:

It is correct that the soil samples taken from four to six feet from the pits had levels below the Land Disposal Restrictions limit. In addition, Land Disposal Restriction standards have not been promulgated for soil and debris wastes at this time. When these standards are published, they may be considered applicable or relevant and appropriate.

Some of the sludges, however, exceed the Land Disposal Restriction. This means some form of treatment is required for these materials. The soils immediately surrounding these sludges are believed to contain similar contaminant levels. The U.S. EPA, therefore, believes it is prudent and reasonable to treat these soils.

The commentators felt that the whole concept of an operable unit was not supported for this site. Their reasons are as follows:

Comment:

- Both the U.S. EPA and private parties have taken emergency actions that were necessary to remove the most imminent hazardous wastes at the site. There is no authority under the Superfund Act for the agency to fractionalize response actions at a site in a manner that is wasteful, duplicative and inefficient.

EPA's Response:

EPA would like to clarify the difference between emergency and remedial actions. The emergency actions were taken to prevent imminent threats to public health and the environment. Remedial actions are used in removing threats to public health and the environment which do not require immediate action. This does not mean that the remedial actions can and should be put off for long periods of time, but that the risk is not considered imminent and does not justify emergency response action.

The source removal operable unit falls under the remedial action category. While there is no imminent risk that requires emergency action, enough information exists to show that releases of contaminants from the pits could and most likely have occurred. It would be inappropriate for the U.S. EPA not to proceed with the operable unit based on the contaminants known to be present and the threat of a release of the contaminants. This approach is consistent with 40 CFR 300.68 (c) of the National Contingency Plan.

Comment:

- The agency cannot support its proposed Remedial Action with an incomplete risk assesment.

U.S. EPA's Response:

It is the U.S. EPA's policy that source control operable units do not require a quantitative risk assessment. As stated in the Guidance on Feasibility Studies Under CERCLA, U.S. EPA, June 1985:

" At sites where only source control remedial measures are being evaluated, a qualitative assessment of the potential public health threats in the absence of remedial action will generally be conducted."

The U.S. EPA continues to believe a source removal operation at the site is prudent.

The U.S. EPA's authority to break the site into operable units, such as this source removal, is clearly stated in the National Contingency Plan 40 CFR Part 300.68 (c).

" Response actions may be separated into operable units consistent with achieving a permanent remedy. These operable units may include removal actions pursuant to §300.65(b) or remedial actions involving source controls, and/or management of migration.

The U.S. EPA feels that the operable unit is an efficient and practical method of dealing with complex sites such as the Laskin/Poplar Oil site.

Commentors had comments regarding the permitting of on-site generators at CERCLA site. These comments are listed below.

Comment:

- The Phased Feasibility Study needs to reflect that additional testing (test burn) of the incineration unit will be required to confirm the use of this technology for site remediation.

U.S. EPA's Response:

A test burn for the mobile incineration will be conducted prior to the incineration of any hazardous waste. The test burn will need to document the 99.9999% performance standard is achieved.

Comment:

- The issue of whether or not an on-site mobile incinerator may legally operate on a CERCLA cleanup site without a RCRA permit in any state other than Illinois has not been resolved. The resolution depends on the interpretation of sections 113(i) and (2)(e) of CERCLA as amended by SARA.

U.S.EPA's Response:

Section 113(i) does not apply to the alternatives chosen. Section 118 was apparently incorporated into SARA in recognition of the fact that the State of Illinois has aggressively pursued its own program for on-site incineration, and has acquired its own mobile incinerator. Section 121 (e)'s general tenor is to insure that the often lengthy permitting process for on-site remedies, that ordinarily would require such permits, not delay the start of remediation. By requiring that such operations nevertheless must meet applicable or relevant and appropriate requirements of law, Congress has ensured that human health and environmental protection issues, otherwise covered by permitting, will be addressed.

The remainder of the comments on the remedial alternative covered a variety of topics and are presented below:

Comment:

- The high lead content of selected sludges makes off-site incineration an impractical and costly alternative.

U.S. EPA's Response:

On-site incineration was determined to be the most expensive option. EPA agrees that high lead content of some of the sludge could result in additional costs, and has recommended on-site incineration as the selected remedy.

Comment:

- For all alternatives, consideration needs to be given to air emissions from material handling during the on-site remedial activities.



U.S. EPA's Response:

All of the options have the possibility of air emissions during material handling. Actions, such as conditioning the waste in the pits, will be taken minimize any air releases. Air monitoring will be used to assure that air releases are kept at an acceptable level.

Comment:

- Air quality monitoring and air pollution controls should be added to the cost estimates.

U.S. EPA's Response:

Air pollution control systems are part of the incinerator units and are included in the cost estimates. The cost of monitoring during the test burn and the continuous monitoring of the incinerator during the clean-up is also included. Air quality monitoring would need to be used for each alternative that involved moving or conditioning the waste. This cost would be similar for each alternative and therefore would not affect their relative costs.

Comment:

- On pages 68-71, landfill costs were listed as \$3.75/ton, but should be \$150/ton.

U.S. EPA's Response:

The U.S. EPA agrees that the wrong price/ton was given. However, the total dollar amount given is correct and the overall estimates do not change.

Comment:

- On page 71 disposal costs for 6,435 tons of soil and ash are \$965,250 or \$150/ton. The cost of off-site wastewater treatment is \$140,000 on 380,000 gal and \$.40/gal. The line item for oil was omitted (30 tons, \$150/ton).

U.S. EPA's Response:

The cost breakdown did accidentally merge information from the disposal of soils and ash with information from the disposal of wastewater. The commentor is correct that disposal cost for soils and ash should be \$140,000. Oil was included in the 3500 tons of high level waste to be incinerated. The final cost should be \$5,714,418 as opposed to \$5,724,418.

Comment:

- U.S. EPA has improperly rejected certain remedial alternatives and failed to consider others. The U.S. EPA has failed to perform a complete evaluation of all reasonable alternatives. For example:

- a. Could the ash be disposed of on-site?
- b. Could the ash be chemically fixated and disposed of on-site?
- c. Could the low level source soils be disposed of on-site?
- d. Could soil washing be used?
- e. How quickly could an on-site disposal unit be constructed?

U.S. EPA's Response:

The U.S. EPA has met its requirements of comparing remedial actions ranging from no action through complete destruction. Some options were ruled out prior to the Phased Feasibility Study because they were known to be inappropriate or infeasible. The U.S. EPA and Ohio EPA have chosen what they consider a reasonable and appropriate solution.

It was determined that an on-site disposal unit for the source removal could not be constructed, filled, and closed by November 1988 based on prior experience with past CERCLA remedial actions. The idea of replacing the clean ash back on site was rejected based on the fear it could be recontaminated, resulting in the extra cost of remediating the material twice. The same would be true for fixating the ash or soils and placing them back on site.

Comment: -

- The option to landfill soils and non-pumpable sludge in Pit 4 should remain open based on the potential difficulty to incinerate these materials given low BTU values. The PCB and HOC concentrations are below land ban limits.

U.S. EPA's Response:

Supplemental fuel will need to be added, the U.S. EPA expects no difficulty in incinerating the soils and non-pumpable sludge in Pit 4. Soils are routinely incinerated in PCB cleanups. The PAHs and VOCs are also effectively treated by incineration. The issue is not the combustibility of the soil but the destructability of the hazardous constituents present.

Comment:

- Given the high ash content (30%), a large volume will remain after incineration which would be landfilled off site as a hazardous waste. The cost for landfilling the unpumpable sludge in Pit #4 and the soils is approximately \$2.5 million less than incinerating these materials combined with landfilling the ash.

U.S. EPA's Response:

The U.S. EPA agrees that the estimated cost difference between the two options is approximately \$2.5 million. The complete incineration option was chosen over a combination of landfilling and incineration for two reasons. The first reason was that the total incineration option was considered more protective of public health and the environment. The long-term dependability of any landfill is unknown. This has been supported by the difficulty of current facilities in meeting the U.S. EPA's Off-site Policy. The second reason was the goal of SARA to use permanent treatment technologies to the greatest extent practicable. With the mobile incinerator on site, it is clearly practicable to treat the additional material.

While the current estimated difference between these two options is \$2.5 million, the actual difference could be much lower. This is true for two reasons. The first reason is that the soils which are in contact with the cinder block walls and unlined bottoms of the pits are believed to have contaminant levels similar to the sludges and oil and therefore would need to be incinerated under either option. The second reason is that much of the ash may pass the necessary tests which would enable it to be disposed of in a sanitary landfill.

Comment:

- Considering the quantity of ash generated, the volume reduction from incineration is not significant.

U.S. EPA's Response:

Goal of SARA is to reduce toxicity, mobility, or volume. By incinerating the soils and non-pumpable sludge in Pit 4, toxicity is significantly and volume is decreased by approximately 20%. This is also addressed by eliminating the majority of the hazardous constituents and the most mobile constituents.

Comments:

- What ARARs were considered in weighing various alternatives.

#### U.S. EPA's Response:

The ARARs considered in weighing the various alternatives included the Resource Conservation and Reclamation Act (RCRA), the Toxic Substances Control Act (TSCA), the Clean Water Act (CWA), the Clean Air Act (CAA), Chapters 3704, 3734, of the Ohio Revised Code (ORC) Section 3745-15, 17, 18, and 21 as well as 50 through 59 OAC dealing with air and water contamination and Chapter 3745-31 of the ORC dealing with undertaking a solid waste disposal facility.

#### C. Time Limits

The commentors expressed concern regarding the length of the public comment period and the time period for producing a good faith offer. The specific comments are dealt with below:

#### Comment:

- No notice of the draft FS was received prior to the PRP notice letter dated August 18, 1987 and postmarked August 21, 1987. EPA's failure to allow adequate, reasonable, and meaningful opportunities in which to comment is contrary to public participation provisions.

#### U.S. EPA's Response:

The public comment period must last a minimum of 21 days as specified under the National Contingency Plan. A 21-day comment period for the site was established from August 10, 1987 to August 31, 1987 by the placing of an announcement in the local paper on August 4, 1987. In addition to this announcement, the special notice letters were sent to the PRPs.

Requests were made by various PRPs for an extension of the comment period. An extension was granted by U.S. EPA to September 11, 1987. This allowed 21 days from the actual mailing of the notice letters and 32 days overall.

Also, this action is one in a series of activities that have been taken related to this site. The PRPs have been aware that a PFS was in preparation and that their own study, undertaken in response to an EPA Administrative Order, would in part be the basis for the the PFS. The EPA feels adequate time was provided for review of and comment on the PFS.

#### Comment:

- The Agency did not provide complete copies of the study with the notice of letters. Only selected excerpts were sent.

#### U.S. EPA's Response:

Complete copies of the report were sent out to the members of the steering committee which had been established by the PRPs in existing litigation on past costs. In addition, complete copies of the PFS were placed in the Information Repositories located in Jefferson and Ashtabula, Ohio, and at the U.S. EPA Region V office, located in Chicago, IL. It would not have been feasible to provide complete copies of the report to each of the more than 300 PRPs involved with the site who received special notices.

#### Comment:

- At the PRP meeting on September 4 in Cleveland, EPA announced that the deadline for good faith proposals to perform the next phase of work would end on October 23, 1987. Because the EPA will not announce its final decision until the end of the September, after considering public comment, there is an objection to the triggering of the 60-day deadline under the CERCLA Section 122 "special notice" procedures. ■

#### U.S. EPA's Response:

The U.S. EPA is currently developing guidance on the timing of the issuance of "Special Notice" letters. While there are several possible approaches, the present procedure being followed is to initiate the 60 day moratorium/period of negotiation concurrent with the public comment period and Record of Decision review and approval process. The advantage of this approach is the opportunity it provides PRPs to get involved in the alternative evaluation process through the submission of formal comments.

#### D. Funding

##### Comment:

- PRP liability for cost incurred should be allocated in accordance with the degree to which parties contributed substances to which EPA may legally respond under CERCLA not on volume of oil disposed of.

##### EPA's Response:

Allocation of liability is not a factor in the choice of remediation and will not be dealt with in this responsiveness summary.

##### Comment:

- Section 104 of the Superfund Act requires that States assume a share of the costs of Remedial activity. The PFS does not indicate whether or not this requirement has been satisfied.

U.S. EPA's Response:

The issue of State share was not discussed in the PFS because it had no bearing on the feasibility or effectiveness of the alternatives. The State is responsible for 10% of the remedial actions capital cost and 10% of the first years operation and maintenance (O&M). All subsequent O&M would be funded by the state. The State of Ohio concurs with the U.S. EPA's choice of source removal and will fund its cost share.

E. General

Comment:

- The maps on pages 6 and 31 should have the pits numbered in increasing order from right to left.

U.S. EPA's Response:

The pits should be numbered in increasing order from right to left.



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RECORD OF DECISION SUMMARY  
LASKIN POPLAR OIL SITE  
JEFFERSON, OHIO

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